



# The Sustainability Appraisal Handbook

*For the MOD Estate*



# **The Sustainability Appraisal Handbook**

*For the MOD Estate*

*Section One:*  
**Background  
Information**





DEFENCE ESTATES

*Delivering Estate Solutions to Defence Needs*

# **The Sustainability Appraisal Handbook**

## *For the MOD Estate*

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# FOREWORD

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*I am committed to the Government policy of putting the environment and Sustainable Development at the heart of decision-making. I therefore welcome the publication of this revised Sustainability Appraisal Handbook and commend it to you.*

*It is our intention that environmental and socio-economic factors should be taken into*

*consideration at the earliest stage of policies and projects, both to discard or mitigate potentially adverse options and to identify opportunities for enhancement. Early appraisal will also promote internal and external consultation and assist in making our processes more transparent.*

*The Handbook reflects important advances in the Department's appraisal processes since initiatives such as the Strategic Environmental Appraisal of the Strategic Defence Review and early guidance documents. Feedback from a wide variety of internal and external stakeholders has been incorporated into this new version and it offers a practical, user-friendly tool to assist decision-makers across the Department. The Handbook continues to enhance MOD's reputation as a leader among Government Departments in promoting environmental and sustainability appraisal.*

*By successfully integrating sustainability into our policies, plans and actions when we can continue to deliver Defence capability without undue constraint whilst not compromising the legacy we give to our future generations.*

**Ivor Caplin MP**  
**Under Secretary of State for Defence**  
**and Minister for Veterans**



# SUMMARY

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It is Ministry of Defence Policy that the department will:

*Comply with the Government's Strategy for Sustainable Development,*  
and will

*Carry out environmental policy appraisals of  
all new or revised policies and equipment acquisition programmes, and environmental impact  
assessment of all new projects and training activities,*

Secretary of State for Defence, July 2000

This Handbook has been produced to help MOD project managers, decision-makers and contractors fulfil this policy commitment, particularly for activities that could affect the defence estate.

## **WHAT IS SUSTAINABILITY APPRAISAL?**

Sustainability Appraisal is a process that allows Sustainable Development objectives to be integrated into policies, programmes, projects, activities and decisions at an early stage. Appraisals are designed to help identify potential environmental, social and economic impacts and issues as early as possible, allowing alternative solutions or mitigation measures to be explored if there are negative impacts. Positive impacts and opportunities for performance enhancement can also be identified and highlighted. An appraisal methodology, such as that featured in this Handbook allows sustainability issues to be considered in a systematic, transparent and auditable way.

The military often uses the term 'sustainability' in logistics, i.e. sustaining the front line with supplies. This Handbook uses the term to mean environmental sustainability or Sustainable Development.

## **WHY DO SUSTAINABILITY APPRAISALS?**

There is a growing collection of legislation and policy driving the development of Sustainability Appraisal approaches. MOD is a major Government department, with a particularly large and varied estate, so needs to set an example in striving towards UK Sustainable Development objectives and performance. Mandates for appraisals and environmental assessment include:

- EU Directive on Strategic Environmental Assessment and EU wildlife legislation;
- UK Town and Country Planning Regulations;
- The Sustainable Development in Government agenda;
- MOD Safety and Environmental policy;
- MOD Estate Strategy.

Sustainability Appraisal provides an opportunity to enhance projects and decisions, as well as environmental, social and economic performance. Appraisals can support project delivery by helping minimise potential risks such as:

- Refusal of Planning consent (Town and Country Planning);
- Project delay;
- Reduction in operational capability;
- Increased overall project costs;
- Bad publicity and poor community relations.

## WHAT ACTIVITIES DOES THIS HANDBOOK APPLY TO?

The guidance and methodology contained in this Handbook should be applied to new programmes, projects, decisions and activities that could impact upon the defence estate. This guidance and mandate is applicable across MOD, whenever an organisation has a new estate-related initiative.

*Handbook users and readers should encompass the following organisations:*

TLB	Focal Point	Application
Army	<ul style="list-style-type: none"> <li>• The Customer Estate Organisation (CEstO),</li> <li>• Army Estate Organisation (AEO) for built estate,</li> <li>• Army Training Estate (ATE) for rural training estate.</li> </ul>	Changes in size and use of built and rural estate.
RAF	<ul style="list-style-type: none"> <li>• The CEstO,</li> <li>• RAF Infrastructure Organisation (RAFIO).</li> </ul>	Changes in size and use of built and rural estate, and in training activities over or near land.
Navy	<ul style="list-style-type: none"> <li>• The CEstO,</li> <li>• Royal Navy Estate Organisation (RNEO).</li> </ul>	Changes to Naval estate or activities in coastal areas.
DLO and DPA	<ul style="list-style-type: none"> <li>• Their CEstO.</li> </ul>	Changes in size or use of estate.
Centre TLB and PJHQ	<ul style="list-style-type: none"> <li>• Their CEstOs.</li> </ul>	Changes in size or use of estate.
Trading Fund Agencies or others based on MOD land	<ul style="list-style-type: none"> <li>• Heads of Establishment or Defence Estates staff.</li> </ul>	Changes in size or use of estate.

Defence Estates Estate Advisers and environmental teams should also be familiar with the Handbook so that they can advise TLB customers of appraisal requirements and processes. Activities that the Handbook should be applied to include:

- Land or property acquisition or disposal;
- New construction;
- Major property refurbishment;
- Major changes in estate maintenance or management;
- Relocation of units (military and civilian);
- Significant changes in training volumes or patterns (including Training On Private Land);
- Significant changes in land or property use;
- Major new estate policy and strategy initiatives;
- Introduction of new equipment, if estate issues have not been addressed in DPA and DLOs' environmental assessment processes.

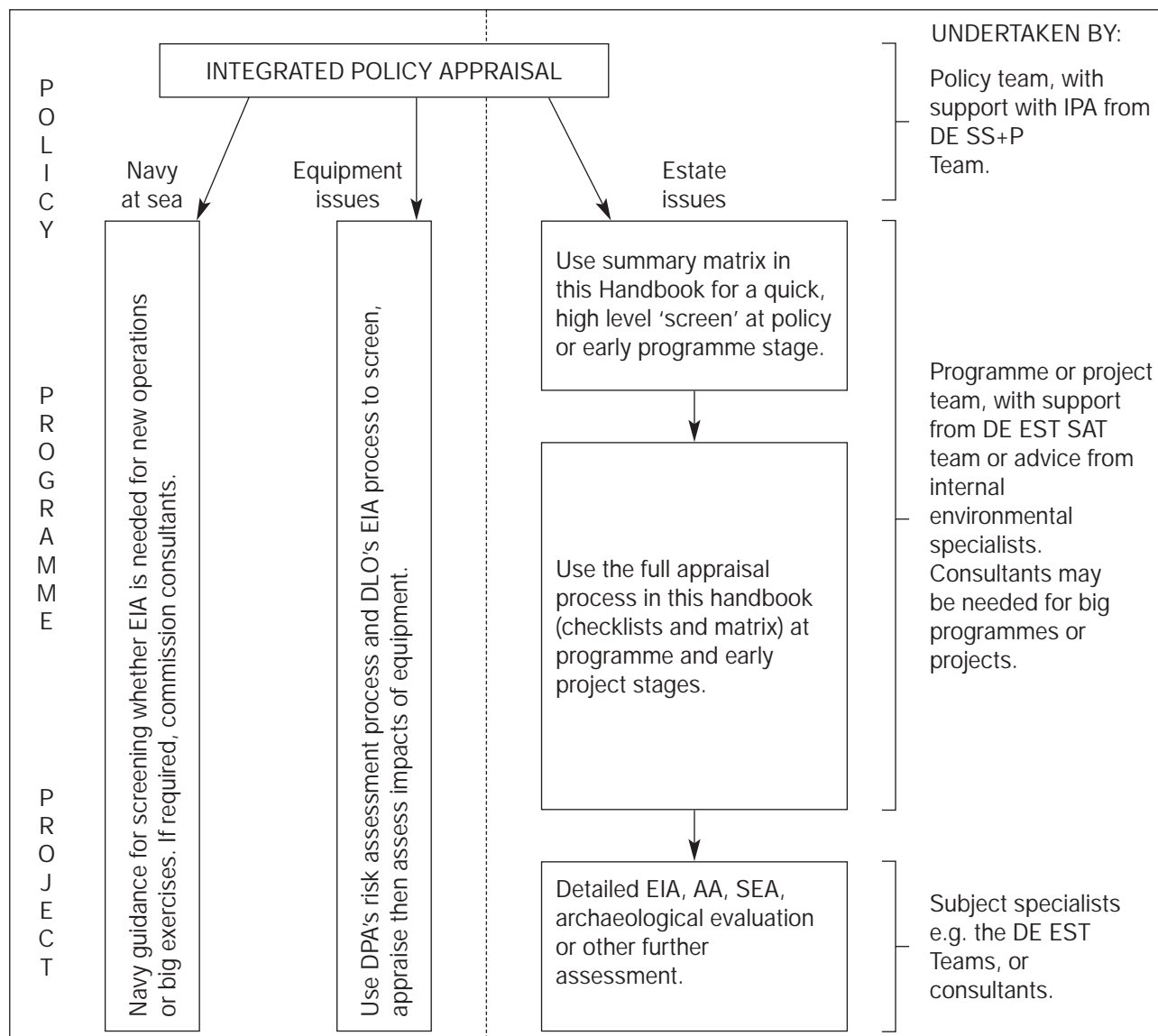
No organisation will have the resources to appraise every new thing that it does, so prioritisation and discretion must be applied to the scale of project or activity that warrants an appraisal. However, scale and significance of impact does not always correlate with size or budget of project, so take advice before deciding if an appraisal is not required, and record that decision in a transparent and auditable manner.

## LINKS TO OTHER APPRAISAL TOOLS

MOD is a large and varied organisation and it would be impractical to create guidance that was applicable to all activities and all levels of decision-making. It is a Government requirement that departmental policies are subjected to Sustainability Appraisal, and a separate tool and guidance is being trialled and developed, adapting DEFRA's Integrated Policy Appraisal (IPA) tool. Results of the policy appraisal should help inform subsequent programme and project development. Social and economic impacts of policies have, to date, been identified using the Regional Impact Assessment process within the DSAR (Defence Submissions Affecting the Regions) framework, but will now be captured by IPA.

Delivery of a MOD policy may entail changes such as procurement of new equipment, relocation of personnel, or alterations to training and operational patterns. The Defence Procurement Agency (DPA) are developing an assessment process for equipment procurement and the Defence Logistics Organisation (DLO) have a policy memo and guidance on environmental assessment for equipment Integrated Project Teams (IPT). However, if these tools do not pick up impacts surrounding the equipment's storage, maintenance, operation, or disposal on the estate, this Handbook may be applied. The Navy have environmental assessment guidance and processes for new training activities and operations afloat.

*Hierarchy and application of MOD sustainability appraisal and environmental assessment approaches.*



## WHAT IS IN THIS HANDBOOK?

Sustainability is an important but complex topic that has evolved over many years. This Handbook aims to introduce the topic in an approachable manner and provide a tool for use by people new to the subject. The three sections of the Handbook are: **Background Information**, **the Appraisal Method** and **Supplementary Information**.

### Structure of the Handbook

<p><b>Section 1:</b> <b>Background information</b> What Sustainability Appraisal is and when it is required.</p>	Ch 1 Introduction
	Ch 2 Sustainability Appraisal Definition
	Ch 3 Sustainability Appraisal Mandate
	Ch 4 Links to Other Initiatives
<p><b>Section 2:</b> <b>Appraisal Method</b> Guidance and template for doing an appraisal.</p>	Ch 5 Sustainability Appraisal Methodology
	Ch 6 Technical Guidance Notes
	Ch 7 Worked Example
<p><b>Section 3: Supplementary information:</b> Guidance on more detailed assessments that might be required.</p>	Ch 8 Blank Checklists and Matrix
	Ch 9 Environmental Impact Assessment
	Ch 10 Appropriate Assessment
	Ch 11 Glossary of Terms
	Ch 12 Contacts and Further Information

The Background Information section should be used to find out what Sustainability Appraisal is, why it needs to be done and how it links into other MOD environmental initiatives.

The Appraisal Method section should be used to find out how to do an appraisal and contains the topic guidance notes and blank checklists and matrix. There is also a worked example to illustrate how the forms should be completed.

The Supplementary Information section should be used to find out about Statutory further assessment work that may be required for certain projects. This includes Environmental Impact Assessment to support Planning processes and Appropriate Assessment under European wildlife legislation. There is also a

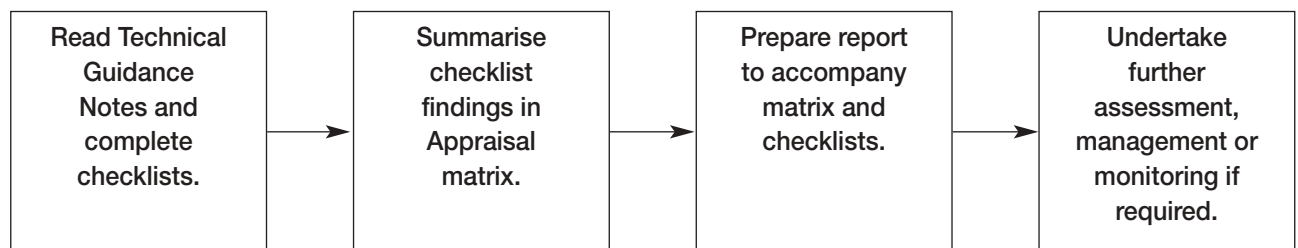
glossary of terms and list of contacts and further references, should assistance or further information on Sustainability Appraisal be required.

It is recommended that people new to appraisal should read the background information section as well as the method section. People new to the subject will benefit from reading the detail presented in Technical Guidance Notes for each topic, although reliance upon these will diminish with experience.

The Handbook and blank checklists/matrices can also be found on the web, with links from the JSP 418 site on MODweb and from the Estate Strategy and Policy Directorate site on Defence Estates' web.

## THE APPRAISAL PROCESS

The Sustainability Appraisal process featured in this Handbook is illustrated very briefly below.



The Technical Guidance Notes contain background information on 15 sustainability topics, illustrating:

- why the theme is important;
- legislation and policies supporting performance improvement;
- how MOD activities may cause impacts;
- mitigation and enhancement measures in the event of adverse impacts;
- contacts and further information.

The guidance notes each contain a checklist, with questions that allow potential impacts of the project or proposal to be identified. The checklist provides an opportunity to record a score for the extent to which the project or proposal supports or contradicts Sustainable Development objectives for that topic.

The second stage, the Appraisal Matrix presents an opportunity to distil the scores and main findings from the checklist stage into a concise summary table. A summary report allows a brief description of the project and the appraisal approach to be presented and the main issues and follow-up actions to be described. After the appraisal, there needs to be a plan for undertaking any further assessment, management or monitoring work required.

For a very early, high-level appraisal or screen – go straight to the matrix to broadly identify potential issues in the topic themes. For a more detailed appraisal, such as that for an options study or a delivery project, go through the full process of checklists and matrix.

## WHEN SHOULD APPRAISALS BE UNDERTAKEN?

Sustainability Appraisal should be undertaken as early as possible in a project or decision-making process, so that there is an opportunity for the findings to influence the eventual outcome if necessary.

Appraisals should not be an isolated exercise but should evolve as a programme or project becomes more defined. At the earliest stage, it may be sufficient to take a list of topic themes (e.g. this Handbook's appraisal matrix) and consider broad potential issues and impacts. As a programme or options study becomes more defined, a more detailed appraisal (using the detailed checklists and matrix in the Handbook) should be undertaken to more accurately identify impacts and issues. As a project evolves and there is greater clarity of location, design, activities or numbers of people, the significant issues identified in earlier appraisals should be further assessed and quantified using more detailed environmental assessment approaches.

## **SUPPORT DURING THE APPRAISAL**

Sustainability Appraisals should be a collaborative exercise, reflecting the input of the project team, delivery contractors, Estates Advisers, environmental teams and external stakeholders.

Defence Estates Environmental Support Team (EST) comprises a strong network of environmental advisers across a broad spectrum of topics and their Sustainability Advisory Team (EST SAT) offer assistance in appraisals. This includes helping to plan the level of appraisal needed, directing people to subject specialists or appropriate consultants (if required) and reviewing the quality of completed appraisals. EST SAT also give awareness-raising presentations and seminars on Sustainability Appraisal.

Defence Estates Estate Strategy and Policy (ES+P) Team can also offer strategic advice on appraisals and up-to-date best practice and policy guidance. Environmental advice and assistance can be provided by TLB, regional or establishment CESO branches or SHEF officers.

## **AFTER THE APPRAISAL**

The results of the Sustainability Appraisal should inform decision-making so there needs to be a mechanism in place for findings to influence project design or Investment Appraisal processes if necessary.

If the appraisal identifies a requirement for more detailed assessment work (driven either by legislation or MOD policy), such work should be programmed in and resourced. It is better to identify such requirements early on and be prepared for them than to suffer project delay when they arise as an unforeseen hurdle.

A plan should be developed to capture any ongoing environmental mitigation, management or monitoring work, for example developing a Construction Environmental Management Plan or building items into an existing Environmental Management System.

Post-project evaluations and audits should also include a summary of how the appraisal has benefited or affected the course of the project, as well as identifying whether recommended ongoing environmental work was delivered.

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# CHAPTER 1: INTRODUCTION

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## 1.1 INTRODUCTION

This introductory chapter provides a guide through the Handbook and explains what information can be found in each section and chapter.

## 1.2 SUMMARY

1.2.1 The summary section provides an overview to Sustainability Appraisal (SA). There is a brief introduction to:

- what it is;
- why it needs to be done;
- what activities the Handbook applies to;
- how the Handbook fits in with other MOD environmental appraisal tools;
- what is in the Handbook;
- the appraisal process;
- when appraisals need to be done;
- support available;
- what to do after the appraisal.

1.2.2 The summary section reflects guidance shortly to be incorporated into JSP 418, which will interpret the Secretary of State's policy commitment to appraisals and assessments and Sustainable Development, and illustrate what tools should be used, where and when across MOD.

## 1.3 SECTION 1: BACKGROUND INFORMATION

1.3.1 This section is helpful to people who are new to the subject and wish to find out more about Sustainable Development, what Sustainability Appraisal (SA) is, why it should be undertaken and how it fits into other environmental assessment and management initiatives in MOD.

### Chapter One – Introduction

1.3.2 This is the guide to what can be found in each section and chapter.

### Chapter Two – Sustainability Appraisal Definition

1.3.3 Chapter Two defines Sustainable Development and SA, before describing what activities the Handbook should apply to, when appraisals should be done and who should be responsible. Emphasis is placed upon appraisal requirements at different stages of Defence Estates' new process for receiving and delivering TLBs' estate development requests.

### Chapter Three – Sustainability Appraisal Mandates

1.3.4 Chapter Three outlines the European, National, Government, MOD and Estate legislation and policy behind the introduction of SA approaches. Some of these are applicable specifically to policies, or to plans and programmes, or to projects, but all follow the common goal to integrate environmental and sustainability factors into decisions at all levels, from the earliest opportunity.

1.3.5 The chapter also illustrates some of the wider benefits, beyond compliance with policy, that SA can provide. These include improved transparency and stakeholder collaboration and reduced risk of project and operational delay, bad publicity and inflated costs.

## **Chapter Four – Links To Other MOD Initiatives**

1.3.6 There is a wide variety of environmental assessment, environmental management and sustainable construction initiatives applicable to MOD and its estate. Chapter Four introduces many of them and explains their links with SA.

### **1.4 SECTION 2: APPRAISAL METHOD**

1.4.1 This is the section to use when actually doing, or finding out about how to do, a Sustainability Appraisal. The section provides guidance on the procedure to follow, provides technical information on each of the sustainability topics, with checklists and matrices to fill in. A worked example has been provided to make the process more tangible.

## **Chapter Five – Sustainability Appraisal Methodology**

1.4.2 Chapter Five provides guidance through the stages of the appraisal process. The stages include:

- Preliminary and preparatory tasks for the appraisal;
- Reading the Technical Guidance Notes for each topic;
- Completing checklists to identify impacts and ideas for mitigation;
- Recording the findings in a summary matrix and preparing a brief report;
- Planning and undertaking any further assessment or management work needed.

## **Chapter Six – Technical Guidance Notes**

1.4.3 The Technical Guidance Notes in Chapter Six constitute the first stage of the appraisal methodology. The notes provide a background information resource on 15 environmental and sustainability topics for those who are relatively new to the subject. The notes illustrate:

- why the theme is important;
- relevant legislation and policy;
- MOD activities that may cause impacts;
- Mitigation suggestions;
- Contacts and further references.

1.4.4 The checklist at the end of each note provides the template for appraising the project or decision and recording impacts and issues.

## **Chapter Seven – Worked Example**

1.4.5 The worked example provided in Chapter Seven is designed to make the SA process a little more tangible. The case study chosen is a fictitious project for new kitchen and dining facilities at an MOD management training college, and illustrates the typical level of detail and issues expected in the checklists and summary report.

## **Chapter Eight – Blank Checklists and Matrix**

1.4.6 Checklists are replicated in Chapter Eight as a series of loose sheets that can be extracted and photocopied for filling in manually if desired. A blank summary matrix is also provided, along with a sheet to record whether any further, statutory assessments are required.

## **1.5 SECTION 3: SUPPLEMENTARY INFORMATION**

- 1.5.1 Section Three presents information that is relevant to SA but supplementary to the actual appraisal process. Such information includes a guide to Environmental Impact Assessment required for certain projects under Planning and other consent processes, and Appropriate Assessment under European wildlife legislation. A glossary of terms is provided, along with a list of contact details and references, if readers seek further assistance or information on SA.

### **Chapter Nine – Environmental Impact Assessment**

- 1.5.2 SA may identify that an Environmental Impact Assessment (EIA) may be required for certain projects, particularly those going through Planning or other consent processes. Unlike SA, project personnel are unlikely to do EIAs but will require assistance from specialist staff or consultants. The chapter illustrates the underpinning legislation, types of projects that require EIA and the processes involved.

### **Chapter Ten – Appropriate Assessment**

- 1.5.3 SA may identify that Appropriate Assessments may be needed for certain activities and projects that could affect habitats or species protected by European designations. Unlike SA, specialist assistance must be sought, but Chapter Ten presents the legislation and illustrates when AA may be needed, along with the processes involved.

### **Chapter Eleven – Glossary of Terms**

- 1.5.4 Chapter Eleven presents definitions of terms often used in, or in relation to SA.

### **Chapter Twelve – Contacts and Further Information**

- 1.5.5 Chapter Twelve provides details of teams to contact for help and advice on SA. The list is not exhaustive, but includes specialist Defence Estates teams and TLB CESO offices. There is also a selection of references for those wishing to obtain further information on Sustainable Development and appraisals.



# CHAPTER 2: SUSTAINABILITY APPRAISAL

## 2.1 INTRODUCTION

Sustainability is a term that is familiar to most people through media, local authority and Government channels, yet it is something that many struggle to define. Whilst there are sustainability implications in almost everything that we do, few people readily appreciate the variety of impacts that they may have. This chapter:

- defines Sustainable Development and Sustainability Appraisal;
- illustrates which activities require appraisals;
- describes when they should happen and who should be responsible.

## 2.2 WHAT IS SUSTAINABLE DEVELOPMENT?

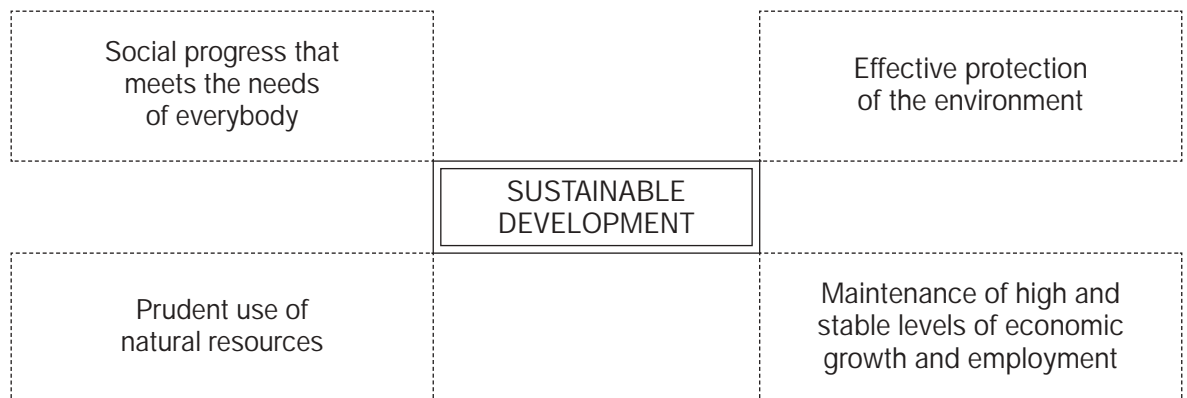
2.2.1 Sustainability means many things to many people, but the World Commission on the Environment and Development (*Brundtland Commission*) in 1987 defined Sustainable Development as:

*Development which meets the needs of the present, without compromising the ability of future generations to meet their own needs.*

2.2.2 This definition highlights the need to apply a long-term perspective to current activities and impacts, in order to safeguard the interests of future generations and promote environmental stability. Current rates of population growth and economic development will put growing pressure on finite resources, as mankind produces more waste than can be safely processed, and destroys habitats, species and heritage features.

2.2.3 The UK Strategy for Sustainable Development, *A Better Quality of Life* (1999) interprets sustainability as promoting a better quality of life, now and for future generations, reflecting four main pillars of objectives – illustrated below:

*Fig. 2.1: The four 'pillars' of Sustainable Development.*



2.2.4 If the two environmental pillars are combined, it can be said that Sustainable Development involves considering the environmental, social and economic aspects of activities. All three factors should be optimised, not 'traded off' against each other. All development has some form of impact and sometimes a balance has to be struck, but negative impacts in one field cannot be justified by highlighting positive impacts in others. Negative impacts should be mitigated if they cannot be avoided.

2.2.5 Environmental factors have traditionally taken precedence because the original driver for such appraisals and assessments was to minimise environmental degradation. However, social and economic themes are growing in importance and will continue to become more prominent in decision-making.

- 2.2.6 The principal environmental aims are to respect environmental limits by accepting that:
- Earth's atmosphere, water and land cannot continue to absorb our emissions, discharges and waste indefinitely;
  - Mineral and hydrocarbon reserves, species and habitats, fresh water and land are all finite resources that we cannot damage or exploit indefinitely.

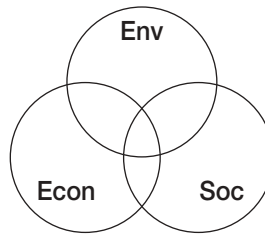
2.2.7 The principal social aims are to put the interests of people nearer to the centre of decision-making, to combat poverty and social exclusion and to promote equal opportunities across the diversity of race, age, religion, gender and ability. The principal economic aims are to create and maintain an open, supportive, diverse and stable economic system.

2.2.8 Positive, long-term progression in environmental, social and economic themes will begin to constitute Sustainable Development.

**Env** = Environmental factors

**Econ** = Economic factors

**Soc** = Social factors



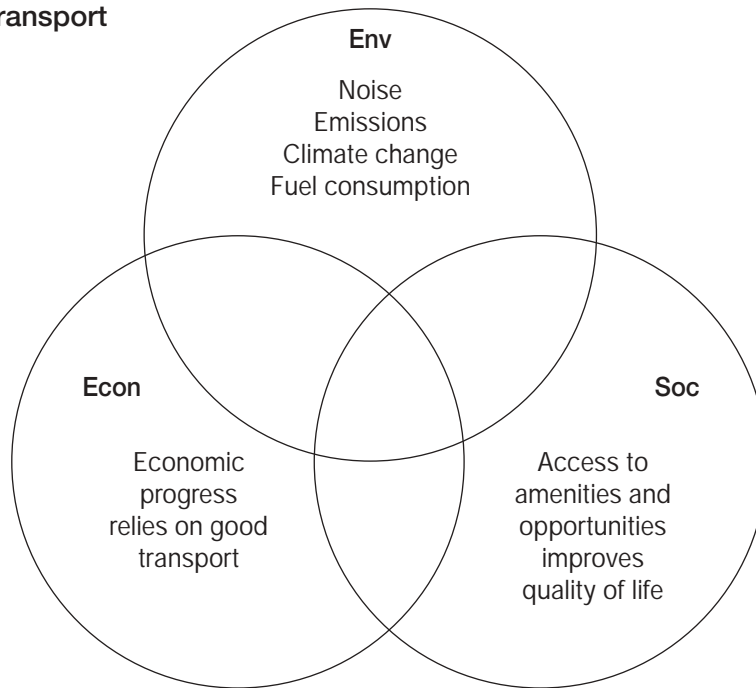
2.2.9 The Handbook appraisal method takes account of the following 15 environmental, social and economic themes:

- ***Climate Change and Air Quality*** (covering Global Warming, ozone loss and air pollution by gases and particulates);
- ***Transport*** (covering congestion, emissions, fuel use and transport infrastructure);
- ***Energy Consumption*** (covering fossil fuel reduction, alternative and renewable resources, energy efficient technology);
- ***Noise and Vibration*** (covering disturbance from vehicles and training or construction activities);
- ***Water and Drainage*** (covering natural hydrological processes as well as water resources, water contamination and disposal of effluent);
- ***Waste*** (covering minimisation, recycling, recovery and reuse, as well as special waste);
- ***Land, Buildings and Construction Materials*** (covering brown-/green-field development, refurbishment/construction impacts, sustainable design);
- ***Geology and Soils*** (covering land contamination, geological stability and their use as resources);
- ***Biodiversity and Nature Conservation*** (covering ecological resources, protective designations, conservation of biodiversity);
- ***Archaeology and Historic Environment*** (covering field archaeology, listed buildings, protective designations, preservation of heritage);
- ***Landscape and Townscape*** (covering rural estate management, sympathetic building design, cultural and recreational resources);
- ***Health, Safety and Crime*** (covering prevention measures, building design, estate layout and working practices);
- ***Communities and Social Values*** (covering internal communities, public engagement and consultation, quality of life and equal opportunities);

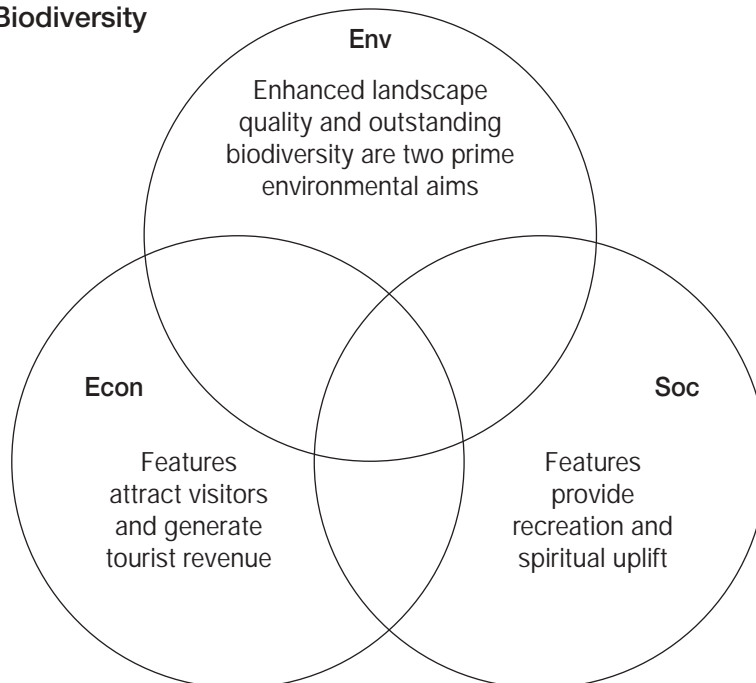
- **Infrastructure and Amenities** (covering provision of staff facilities, public access to MOD sites, MOD use of public facilities);
- **Economy and Employment** (covering procurement, investment in local economies, jobs, education and training).

2.2.10 Many Sustainability strategies and tools categorise topics into social, economic and environmental themes. However, whilst most themes predominately affect one category, they also have impacts in the other two areas. For example, traffic and transport and landscape/biodiversity are usually categorised as environmental themes but they also incorporate social and economic aspects.

### Traffic and Transport



### Landscape/Biodiversity



2.2.11 Some themes e.g. climate change extend globally, and it can be hard to appreciate how small projects could affect global systems. The Rio 'Earth Summit' in 1992 spawned several global action plans for Sustainable Development and biodiversity, which guided National and Local Agenda 21 sustainability initiatives. The motto behind many was 'Think Global, Act Local', emphasising that everybody can contribute towards sustainability.

### 2.3 SUSTAINABLE DEVELOPMENT AND THE MILITARY CONTEXT

2.3.1 The Military often use the term 'sustainability' to describe the logistical goal of sustaining front line forces with supplies, allowing them to operate in an efficient and uninterrupted manner. The term 'sustainable training' is also often used to refer to the requirement to maintain realistic training without interruption from environmental or community issues. However, this Handbook examines how the MOD performs against the principles of Sustainable Development.

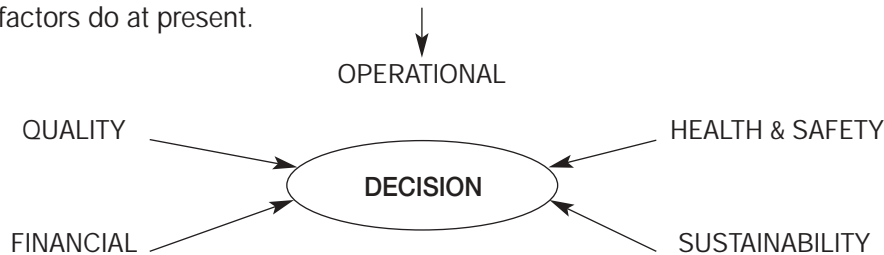
2.3.2 MOD contributes to Sustainable Development in numerous ways. The primary role of the department is to maintain UK quality of life, environment and resources, and to act as a force for good by working with international alliances to prevent conflict and provide humanitarian assistance. MOD provides military aid to civil authorities (MACA) and crisis management domestically, as well as roles such as bomb disposal, fisheries protection and counter-drugs operations.

2.3.3 As a Government department, MOD should comply with the UK Sustainable Development strategy (*A Better Quality of Life 1999*) to promote departmental and national progress against sustainability targets. Chapter Three describes mandates for integrating sustainability into MOD activities.

### 2.4 WHAT IS SUSTAINABILITY APPRAISAL?

2.4.1 Sustainability Appraisal (SA) is a process to **identify potential environmental, social and economic impacts of an activity, project or decision as early as possible**. Early identification of negative impacts allows alternative solutions to be sought or mitigation to be explored before the proposal or development progresses beyond influence. Appraisals also allow identification of positive sustainability benefits and enhancement opportunities.

2.4.2 SA allows decisions to be informed by a wider range of parameters, so that environmental, social and economic factors can influence the decision just as Health and Safety, Operational, Quality and Financial factors do at present.



2.4.3 Appraisals constitute an initial, high-level 'screen' to clarify issues and topics requiring further assessment, either because they are sensitive or because more data is required before accurate impact predictions can be made.

2.4.4 This further work could be a more detailed topic evaluation, or a full scale Environmental Impact Assessment or Appropriate Assessment if the relevant legislative triggers are identified. Early warning of requirements for further assessment can prepare project and budget managers for the associated time and resource implications, rather than face last-minute disruptions.

2.4.5 SA does not give 'right' or 'wrong' answers. The purpose is to explore, justify and record whether issues are significant or insignificant, and demonstrate how sustainability features have been built into the project or proposal. Costs and benefits of sustainability issues extend beyond financial aspects, to public perception and the 'value' of landscapes and wildlife.

- 2.4.6 The mandates described in Chapter Three show how projects, programmes and policies are expected to provide evidence that sustainability factors have been addressed. An appraisal provides a *systematic* and *auditable* way of demonstrating that social, economic and environmental issues have been identified and have influenced decisions. MOD's sustainability performance is under increasing public scrutiny.
- 2.4.7 Consideration of sustainability factors is not necessarily new. Many decisions already take account of matters such as capacity of local schools, transport systems, healthcare, energy and fuel purchase, waste disposal and proximity to nature reserves or heritage sites. Many sustainability issues reflect common sense and good practice and are compatible with long-term business efficiency.
- 2.4.8 Appraisals provide a mechanism for demonstrating that a broad range of issues has been systematically considered. It is better to consider a topic and disregard it as insignificant, than to have apparently overlooked it.
- 2.4.9 Common sense also determines the level of detail required by the appraisal. Appraisals should be thorough and defensible, but the length of time invested, number of people consulted and amount of background research undertaken will reflect the complexity of the project and the sensitivity of the site.
- 2.4.10 Appraisals are usually *objectives-led*. This means that proposals are judged against sustainability objectives or aspirations for each topic area, focussing on preventing damage and improving performance. These aspirations should be incorporated by projects as far as is practicable and appraisals facilitate this.
- 2.4.11 Appraisals are *iterative*, which means that they are not one-off, stand-alone exercises but should be revised and updated as projects change or as greater clarity emerges, e.g. when broad programme objectives turn into specific project outcomes with defined locations, numbers or processes.
- 2.4.12 Appraisals should be *flexible* and done at early stages of projects. However, the level of clarity at this point is often lower so the appraisal needs to adapt to the project dynamics. This Handbook provides a method for doing an appraisal, but the exact approach, timescale and level of detail can be tailored to the proposal or project. Lateral thinking is encouraged, to explore links across topic areas, apply knowledge from previous experiences and consider indirect impacts.
- 2.4.13 Other characteristics that should be incorporated into SA include:
- **The Precautionary Principle** – Lack of scientific certainty or baseline knowledge cannot be used as a basis for deciding that there is no impact. Furthermore, if an impact has been identified but not quantified, one must still mitigate against it, although collection of data will help tailor the mitigation appropriately. Unless it can be proved that there is no impact or that mitigation will work, it cannot be claimed that impacts will not occur.
  - **The Proximity Principle** – Resources should be exploited as close as possible to their point of demand and waste should be disposed of as near as possible to its point of origin.
  - **Life Cycle Assessment** – Sustainability impacts should be considered from cradle to grave where practicable, i.e. from acquisition of raw materials, through construction or operational phases, to decommissioning and disposal. This is particularly important for buildings and equipment with a long life expectancy.
  - **Using Scientific Knowledge** – Decisions should be reinforced by as much scientific information as possible, not just opinion. Appraisals should be informed by collection of baseline data, consultation with experts and awareness of the quality of information available.

- **Transparency** – Appraisals provide a mechanism for engaging stakeholders in the project as early as possible. This helps to address the concerns of other interest groups, can help identify alternative, more sustainable solutions, and minimise risk of late objections.

## **2.5 WHAT ACTIVITIES COULD THE HANDBOOK APPLY TO?**

2.5.1 Although the MOD policy commitment to appraisal applies across the whole department, this Handbook is designed primarily for programmes, projects, activities and decisions that could impact on the built and rural estate, including:

- Land or property acquisition or disposal;
- New construction;
- Major property refurbishment;
- Major changes in estate maintenance or management;
- Relocation of units (military and civilian);
- Significant changes in training volumes or patterns (including TOPL);
- Significant changes in land or property use;
- Introduction of new equipment, if estate issues have not been addressed in DPA/DLO's assessment process.

2.5.2 JSP 418 and the Summary at the front of this Handbook explain how different appraisal tools such as this, Integrated Policy Appraisal tools and DPA/DLOs' environmental assessment processes inter-relate.

## **2.6 WHEN SHOULD SUSTAINABILITY APPRAISALS BE UNDERTAKEN?**

2.6.1 Sustainability Appraisals should be carried out as early as possible in the project or decision-making process. An Integrated Policy Appraisal tool is being trialled for application to MOD policy and plan creation. This promotes identification of potential broad regional, cumulative or long-term sustainability impacts, informing development of programmes to deliver the policy objectives.

2.6.2 The Handbook should be applied to Programmes, project definition, option or assessment studies and the initial screen of delivery projects. Programme definition should be informed by findings of earlier policy appraisals, but if these do not exist, the Handbook should be applied early on during programme development.

2.6.3 Handbook SA should inform the choice of options for delivering programme objectives, e.g. choice of location. Options study appraisals may constitute the first 'screen' of a delivery project, upon which the project appraisal builds, but projects must initiate an appraisal afresh if one has not been done earlier. The project must ensure that any further assessment, mitigation or monitoring identified by earlier appraisals, is also undertaken.

2.6.4 Sustainability objectives should be incorporated into proposals rather than appraised retrospectively, although it is envisaged that the Handbook will usually consider sustainability criteria against defined proposals. If the initial project brief specifies the need to incorporate sustainability objectives then that will aid early integration.

2.6.5 Since the launch of 'new' Defence Estates in April 2003, there is a clear pathway for estate projects, from the initial requirement by the TLB – (via their CEstO (Customer Estate Organisation) through to eventual delivery. The six new CEstOs will represent the Army, Navy, RAF, DLO, Centre/DPA and PJHQ. The new Project process is illustrated below, with indications of how appraisals should evolve and iterate through the process.

*DE Process for Projects and Core Works, with SA stages*

Process Stage	Owner	Appraisal Type
Statement of Need (SON)	TLB, Site, DE or Contractor passes to CEstO	Integrated Policy Appraisal by SON originator (supported by DE SS+P Team). Use Handbook matrix until IPA tool is launched.
User Requirement Document (URD)	Prepared by CEstO for DE D Prog	
Rough Order of Estate Information (ROEI)	DE (D Ops and D Proj) undertake and present to customer	
Assessment Brief	DE D Prog	
Assessment Study	DE IPT and CEstO for D Prog	SA (checklists and matrix) on all options, scoping requirement and costs for any future work (supported by DE SAT).
Present Preferred Option	D Prog presents choice to CEstO and IPT	
Develop Preferred Solution	DE IPT	Revision of SA by selected contractor. Undertake any EIA, AA or other topic assessment if needed. (supported by DE EST).
Secure Contract Commitment	DE IPT	
Implement Project	DE IPT	
Compliance Period	DE IPT	Audit to ensure any ongoing sustainability work has been done.

- 2.6.6 The Policy Appraisal and preliminary SA at SON and ROEI stages respectively should be a quick, rough 'screening' exercises to highlight broad likely issues as early as possible. For example, if a development is proposed to cater for an increase in 600 personnel, one can state early on that there could be issues such as increased traffic, increased demand for educational or recreational facilities locally, increased energy, water, waste, or construction noise. The earlier the decision-makers are aware of these broad issues, the better.
- 2.6.7 The full SA process on each of the options at the Assessment Study stage is the key stage for sustainability to inform choices and decisions. SA at this stage is more rigorous and applies the broad issues, identified earlier, to how the project will manifest itself at each site. Appraisals will be more quantified and will require more liaison with internal and external stakeholders.
- 2.6.8 SA and detailed assessments at project delivery level at the chosen site are a lot more quantified and detailed and will usually require input from subject specialists or consultants.
- 2.6.9 SA using the Handbook can be initiated at any stage if it has not yet been undertaken at earlier phases, however early appraisals do not negate the need for later study as projects become more defined. Appraisals should be iterative and expand the findings at earlier stages. Post project evaluation should help to review how useful the appraisals were at each stage. The Handbook must still be used as early as possible for activities outside this project process.
- 2.6.10 MOD Trading Fund Agencies such as DARA, DSTL, ABRO Meteorological Office and Hydrographic Office still fall under MOD policy commitments. These organisations should use the Handbook for appraisals on their estate.

## **2.7 WHO IS RESPONSIBLE FOR SUSTAINABILITY APPRAISALS?**

2.7.1 SA needs to be staffed and resourced, including:

- Appointing people to do the appraisal;
- Developing a communication strategy to inform the appraisal and disseminate results;
- Allocating finances;
- Allocating time;
- Linking to management and project processes.

2.7.2 Responsibility for appraisals lies with the Project Manager or lead decision-maker at each stage of the activity. The task may be delegated to appropriate people within the project team. Assistance can be sought from environmental and sustainability teams across DE and CESO teams in MOD. Engagement of consultants is often necessary for appraisals of major projects and programmes such as SLAM, Aquatrine and Allenby/Connaught. Follow departmental processes (e.g. DE BMS) and take advice from environmental teams for selecting and commissioning consultants.

2.7.3 The information contained in the Handbook should allow somebody without a formal environmental or sustainability background to complete an appraisal. The more often the process is completed, the easier and speedier it becomes. If it is possible to gain access to environmental expertise, it will make the appraisal a bit more defensible and rigorous. Handbook training seminars were given to DE and Army staff in 2002, and training will be intensified.

2.7.4 Communication is important during appraisals. A link between the appraiser and the Project Manager or Sponsor will help sustainability findings influence eventual decision-making. The appraiser should communicate with internal and external stakeholders to aid transparency and get advice on estate issues and specific subject areas. If the appraisal identifies requirements for further work such as a statutory assessment, project managers and finance staff must be alerted to time and financial implications.

## **2.8 FURTHER INFORMATION**

2.8.1 This chapter has provided background information and definitions of Sustainable Development and Sustainability Appraisal. It has also outlined when Appraisals are required and who may be responsible for their completion. Chapter Three now describes the mandates behind appraisals, as well as some of the legal requirements for more detailed assessments that may be identified. The wider project benefits of appraisals are also highlighted.

# CHAPTER 3: SUSTAINABILITY APPRAISAL MANDATES

## 3.1 INTRODUCTION

An increasing amount of legislation, policy and public scrutiny has prompted the MOD to give environmental and sustainability issues greater prominence. The department is embarking on the required transition from focussing on legal compliance towards integrating sustainability more proactively into decisions and activities. This chapter illustrates the MOD and Governmental policy drivers and legislative mandates behind the development of Sustainability Appraisal, highlighting the benefits that appraisals can bring to projects and decisions.

Fig. 3.1: Summary of statutory and policy commitments

<b>Statutory:</b>	Environmental Impact Assessment, Appropriate Assessment and Archaeological Evaluation for certain projects.
<b>Policy:</b>	Strategic Environmental Assessment or Sustainability Appraisal at policy, programme or plan level.  Sustainability Appraisal at project level, with further Environmental Evaluation (making use of EIA methodologies) if required.

## 3.2 EUROPEAN AND NATIONAL LEGISLATION

3.2.1 Sometimes, detailed assessments are required by law, for example:

- Environmental Impact Assessment, which is required to support Planning applications for certain projects (*see Chapter Nine for more detail on EIA*);
- Appropriate Assessment, when a new development or activity is on or near a site or species with European or Ramsar wildlife conservation protection (*see Chapter Ten for more detail on Appropriate Assessment*);
- Archaeological Evaluation, when there is a chance that there may be antiquities present on site (as judged by an archaeological expert) (*see Chapter Six, Theme J, for more information*).

3.2.2 Early SA can be a mechanism to liaise with Local Planning Authorities (LPA) or Statutory Bodies to identify requirements for such assessments. The earlier they are identified, the easier it is to consider alternative locations or prepare project managers for potential time and cost implications.

3.2.3 MOD has been exempt from full Town and Country Planning legislation, but Circular 18/84 sets alternative procedures for approving proposals from Government Departments. MOD uses the Notice of Proposed Development (NOPD) process for consulting LPAs. Statutory Environmental Impact Assessments are still required on certain developments, and Crown Exemption is due to be removed so MOD must soon comply with conventional Planning systems where LPA, not MOD is the determining authority for approvals.

3.2.4 In July 2001, the European Commission launched a new Directive (2001/42/EC) on Strategic Environmental Assessment, committing public authorities to formally assess certain plans and programmes likely to have a significant impact on the environment. Although there is a defence exemption, it is MOD policy to abide by relevant legislation. The Directive will raise the profile of environmental appraisal, and SA will help MOD apply the spirit of the Regulations.

- 3.2.5 New Regulations are being drafted for introduction to UK law in July 2004. Formal, statutory SEA (with public consultation) may be required when a plan or programme might impact on a European wildlife site. Where this is a possible risk it will be essential that DE's Environmental Support Team are involved at an early stage. DE will discuss the possible requirement for an SEA with English Nature or the relevant Statutory body in Wales, Scotland or Northern Ireland.
- 3.2.6 The proposed EC Environmental Liability Directive will mandate liability for environmental damage from potentially dangerous activities, with a requirement for compensation or restoration. The Directive will prompt a proactive approach to identifying environmental risks, and SA can be such a mechanism.

### 3.3 GOVERNMENT POLICY

- 3.3.1 The Cabinet Sub-Committee of Green Ministers ENV(G) sets strategic direction and targets for integrating sustainability into Government and departmental practice, building on environmental goals of the *Greening Government* agenda.
- 3.3.2 ENV(G)'s *Annual Sustainable Development in Government* Report (2002) publicises Government intent for SA of policies. Policy appraisal mandates have existed since DETR's 1991 *Policy Appraisal and the Environment*. DEFRA's Integrated Policy Appraisal (IPA) tool is used by many departments and is being trialled by MOD. The Parliamentary Environmental Audit Committee monitors and reports progress in implementing appraisals. Each department is also expected to support Treasury Spending Review resource bids with SA reports.
- 3.3.3 The *Framework for Sustainable Development on the Government Estate* (2002) is a primary mechanism for improving and reporting sustainability performance. Departments must develop strategies and targets for Environmental Management Systems, performance reporting, waste, water, energy, procurement, travel, estate management, biodiversity and social impacts. SAs should acknowledge these targets.
- 3.3.4 The Rural White Paper (November 2000) spawned a requirement for Governmental policy making to consider rural circumstances and needs. The Countryside Agency has developed a guide and checklists for 'Rural Proofing'.
- 3.3.5 As policy appraisal becomes standard practice, it is expected that the SA trend will be mirrored at lower tiers of decision-making, and guidance such as this Handbook will help apply such Governmental goals to MOD estate activities.

### 3.4 MOD POLICY

- 3.4.1 The summary of this Handbook opened with the Secretary of State for Defence's commitment to environmental appraisal within MOD. As a reminder, the MOD Safety and Environmental Protection policy statement (July 2000) commits the Department to:

***Carry out environmental policy appraisals of all new or revised policies and equipment acquisition programmes, and environmental impact assessments of all new projects and training activities.***

It is good practice in industry and the environmental profession to build social and economic factors into environmental appraisals. As it is also MOD policy to comply with the Government's Sustainable Development Strategy, the mandates have been interpreted and combined into 'Sustainability Appraisal'.

- 3.4.2 Despite the caveat that the MOD policy will apply within the UK, it also commits to *apply UK standards where reasonably practicable, and comply with relevant host nations' standards* (which may include appraisal requirements) when operating abroad. Handbook SAs should be applied to overseas activities (on land, not at sea). This requirement may be reinforced by political sensitivities of operating abroad and resulting need for good practice. There are also NATO guidelines for environmental consideration in Alliance exercises and operations.

- 3.4.3 The Safety, Health, Environment and Fire (SHEF) Board commissioned the Sustainability and Environmental Impact Assessment (S+EIA) Working Group to identify a plan for delivering the MOD policy commitment. The SA Handbook was authorised for application to estate projects and programmes.
- 3.4.4 The policy commitment for environmental impact assessment of all new projects does not imply that a full EIA, with appropriate staff or consultants, is necessary. Intensity of study should correlate with the nature of the project or anticipated level of impacts. All projects should undertake an initial SA to identify the main issues. The appraisal may identify a requirement for a full EIA or other statutory assessment, or it may highlight a need for further environmental evaluation or mitigation in just a few significant subject areas.
- 3.4.5 The MOD policy commitment for appraisals and assessments is reflected in Declarations of Intent with English Nature and home nation statutory conservation bodies, as well as Memoranda of Understanding with DEFRA and the devolved administrations. These bodies have a duty to help the department meet its environmental stewardship obligations.

### **3.5 ESTATE POLICY**

- 3.5.1 The Strategy for the Defence Estate, *In Trust and On Trust* (June 2000), was one of the main drivers for production of an Appraisal Handbook, a tool that should be utilised to fulfil its other commitment, to *subject all significant proposals impacting on the estate to prior environmental appraisal*.
- 3.5.2 Defence Estates' Environmental Policy Statement (*Chief Executive, September 2002*) reinforces the MOD policy commitment by promoting, across the department, *sustainable management of the estate to the highest practicable standard by building sustainable development considerations into all decision-making processes*. Defence Estates' own environmental performance will be improved by *building sustainable development consideration into all business processes and influencing suppliers and contractors to support government, departmental and agency environmental policies*. It is a target of the Agency's business plan for 2003/04 that there should be no MOD planning applications turned down due to a lack of SA or environmental assessment.

### **3.6 WIDER BENEFITS OF SUSTAINABILITY APPRAISAL**

- 3.6.1 This chapter has focussed on policy mandates for SA, but appraisals should not be viewed as another bureaucratic obstacle. SA provides an opportunity to enhance the sustainability performance of projects and decisions and minimise potential obstacles such as:
- Refusal of Planning consent (Town and Country Planning);
  - Project delay;
  - Increased overall project costs;
  - Major delays and costs due to Public Inquiry;
  - Reduction in operational capability;
  - Bad publicity.
- 3.6.2 MOD is a high profile organisation and the public, Statutory Bodies, Non-Governmental Organisations, LPAs and special interest groups can scrutinise MOD's activities and object to developments that lack the required sustainability. Projects can then be delayed whilst appraisals are commissioned or undertaken. Longer delays and financial cost can arise if objections lead to Public Inquiries. Early, proactive SA can therefore save time and money later.
- 3.6.3 The *Modernising Government* agenda promotes more transparent decision-making and openness, and SA facilitates early consultation with interested parties, allowing consideration of the interests of others, exploration of alternative options, and reduction in risk of last-minute objections.

- 3.6.4 SA can help generate good publicity for a project or decision if enhancement opportunities or positive Sustainability impacts are identified. However, MOD has suffered poor publicity when projects have not embraced SA obligations.
- 3.6.5 Appraisals can help to smooth the route through Planning processes, as they show evidence that MOD is proactive in considering sustainability impacts.
- 3.6.6 Early Handbook SA is a relatively low-cost exercise. Some appraisals may identify a requirement for statutory assessments or more detailed evaluation in certain topic areas, but budget managers would rather know of potential costs as soon as possible rather than receive a last-minute demand.
- 3.6.7 Delays due to public objections or refusal of planning consent can significantly impact on operational capability, and there are a number of such examples. Failure to undertake adequate assessment and appraisal work has recently caused a series of projects:
- 5 month delay and £600,000 costs;
  - 1 year delay and £1 million costs;
  - 10 year delay and £10 million costs.
- SA supports the operational imperative in the long term, even if it is initially perceived to be a resource drain.
- 3.6.8 These benefits and the growing mandates are now encouraging the department to integrate Sustainable Development objectives into decision-making, and adopt a Sustainability Appraisal tool. A little investment in appraisals at an early stage can minimise the risk of delay, cost, Planning refusals, objections, bad publicity and reduced operational capability in the long term. SA is designed to support the military imperative, rather than impede it.

# CHAPTER 4: LINKS TO OTHER MOD SUSTAINABILITY INITIATIVES

## 4.1 INTRODUCTION

Sustainability Appraisal should not stand in isolation and can complement many of the other environmental and sustainability initiatives in existence across MOD. Data, communication mechanisms and experiences from other initiatives should feed into Sustainability Appraisals to make them more rigorous. Further work that may be identified by Sustainability Appraisal may be delivered by existing management or sustainable design strategies.

This chapter illustrates some of these wider initiatives, such as:

- other appraisal and assessment processes;
- environmental management tools;
- construction, design and procurement initiatives.

## 4.2 OTHER APPRAISAL AND ASSESSMENT INITIATIVES

4.2.1 This section covers methods to assess environmental and sustainability impacts, usually of new activities, rather than the management of day-to-day impacts. MOD is a large department with many activities and impacts, and different areas have developed specific expertise or unique assessment tools.

### Integrated Policy Appraisal Tool

4.2.2 DEFRA's Integrated Policy Appraisal (IPA) tool is used by many Government departments (and is being trialled by MOD) to help meet commitments for Sustainability Appraisal (SA) of new policies. The IPA explicitly incorporates social and economic issues with environmental themes, and was designed to amalgamate eleven existing Government policy appraisal requirements, including Regulatory Impact Assessment (impacts on small businesses and the voluntary sector) and Rural Proofing (impacts in the Rural sector).

4.2.3 Findings of IPA policy appraisals should inform later, more detailed Handbook appraisals on programmes and projects that deliver the policy objectives. The flow of IPA themes into Handbook themes and topic numbers is as follows:

IPA theme	Handbook theme ID
Regulatory Impact Assessment	Theme O
Sustainable Development	Themes A to O
Public Expenditure and Economic Impacts	Theme O
Rural Proofing	Themes M, N and O
Health Impact Assessment	Theme L
Environmental Appraisal	Themes A to K
Promoting Race Equality	Themes M, N and O
Gender Impact Assessment	Themes M, N and O
Disability	Themes M, N and O
Children and Young People	Themes M, N and O
Welsh and Cultural themes	Themes M, N and O

## **Environmental Impact Assessment, Appropriate Assessment and Archaeological Evaluations**

- 4.2.4 SA may identify requirements for Statutory Environmental Impact Assessments, Appropriate Assessments and Archaeological Evaluation if the relevant legislation or Planning Policy applies to the proposed development. Specialist advice must be sought for these detailed assessments, and contact details for appropriate teams are found in Chapter Twelve.
- 4.2.5 Chapter Nine illustrates when EIAs are required and highlights the processes involved and Chapter Ten describes Appropriate Assessment processes and when they are required. The Technical Guidance Note for Theme J in Chapter Six gives advice on Archaeological Evaluations.

## **DLO and DPA Equipment Acquisition processes**

- 4.2.6 The Defence Procurement Agency (DPA) procures equipment, commodities and inventory items, and the Defence Logistics Organisation then supports their use by the Armed Forces. Whole-life Integrated Project Teams (IPT) link both TLBs through procurement and support phases.
- 4.2.7 Procurement and logistical support are major components of MOD, so these TLBs have developed their own processes for environmental assessment and management, under the umbrellas of *Sustainable Procurement* and *Smart Acquisition*. DPA equipment IPTs conduct safety risk assessments to identify significant environmental effects, which may stimulate EIAs.
- 4.2.8 DPA and DLO will work together to expand on an equipment EIA process that DLO launched as a policy memo in October 2000. This three-stage process incorporates an Environmental Impact Scoping Study, a more detailed Environmental Impact Assessment and the eventual Environmental Impact Statement. Focal points for appraisal and assessment are the Acquisition Environment and Safety Office in DPA, and CESO(N) in DLO.
- 4.2.9 The equipment EIA process should identify potential estate issues surrounding procurement projects, e.g. use, storage, maintenance and disposal. Such estate issues may then be appraised in more detail using this Handbook.

## **Land Quality Assessment**

- 4.2.10 The nature of many MOD activities (e.g. live firing, vehicle maintenance, re-fuelling, storage of hazardous or noxious items, de-icing, de- and re-painting) has increased the potential for contaminated land to exist on the MOD estate. Contaminated land must be identified and managed effectively if the MOD is to carry on using the estate sustainably. SA can aid early identification of such issues, then Land Quality Assessments (LQA) quantify locations and levels of contaminants so that management and mitigation options can be determined.
- 4.2.11 Further information on contaminated land is presented in Technical Guidance Note H in Chapter Six. The Specialist Services (SpS) Unit in Defence Estates is the primary focus of expertise in LQA and contamination issues.

## **Regulatory Impact Assessment**

- 4.2.12 Regulatory Impact Assessment (RIA) has been driven by the Cabinet Office as a mandatory element of Government policy-making. Departments that make new Regulations must assess their likely effects on small businesses and the voluntary sector. RIA is a component of IPA, and themes exposed by RIA should filter down into Handbook appraisals via Technical Guidance Note Theme O – Economy and Employment (Chapter Six).

## **Rural Proofing**

- 4.2.13 Rural Proofing has been driven by DEFRA and the Countryside Agency as a mandatory element of Government policy-making. Rural Proofing is a component of the IPA tool and aims to investigate the likely effects of a decision on rural communities and opportunities. Themes exposed by Rural Proofing should filter into Handbook appraisals via Technical Guidance Note Themes M, N and O on Communities, Infrastructure and Economies (Chapter Six).

## **Risk Assessment**

- 4.2.14 Risk Assessment is a process to identify issues that could affect a proposal or project, considering likelihood of their occurrence and the severity of their impact. Risk Assessment and SA have strong links as SA helps to identify environmental, social and economic risks and ways to manage them.

## **Investment Appraisal**

- 4.2.15 Investment Appraisal informs decision-makers about the costs and benefits of project options. SAs should inform Investment Appraisals because the sustainability implications of different options may require different levels of investment in, e.g. further assessment, management or mitigation techniques. JSP 507 gives MOD policy and guidance for Investment Appraisal.

## **4.3 SUSTAINABILITY AND ENVIRONMENTAL MANAGEMENT INITIATIVES**

- 4.3.1 This section covers initiatives to manage day-to-day environmental or sustainability impacts of existing activities, infrastructure, equipment and processes. When new developments are appraised using this Handbook, or assessed using any of the tools described in section 4.2, ongoing management, mitigation or monitoring requirements can be captured by management tools to ensure long-term delivery. Many initiatives use Environmental Management Systems (EMS) approaches.

### **Environmental Management Systems (EMS)**

- 4.3.2 An Environmental Management System (EMS) is a systematic framework for managing an organisation's day-to-day environmental impacts and delivering continuous improvement in environmental performance.

- 4.3.3 EMS allows an organisation to:

- identify its environmental interactions and impacts;
- develop policy and set objectives and targets for reducing impacts;
- implement programmes to manage impacts;
- measure and monitor impacts against targets;
- audit the efficiency of the EMS;
- report environmental progress.

The system operates in a cyclical fashion, and the results of monitoring and audits help to redefine the overall policy and set appropriate targets for the following period.

- 4.3.4 It is MOD policy to deliver and maintain a corporate EMS, and JSP 418 contains a manual of guidance for implementation. The MOD SHEF approach is similar to the ISO 14001 model. EMS can be applied to organisations, selected Agencies or Services, geographical regions or individual sites and processes, and most major TLBs have made some progress on implementation. As MOD increasingly forms long-term Partnering arrangements with industry, it must be specified that contractors have EMSs to manage ongoing impacts.

- 4.3.5 SA applies to new and proposed activities rather than the ongoing, steady state conditions that apply to EMS, however, appraisals and EMS should be integrated when both initiatives become comprehensively rolled out. EMS databases contain a wealth of data and information on site characteristics and impacts, so can be used as a source of baseline data from which to predict new impacts. If an appraisal identifies requirements for ongoing assessment, management or monitoring, the EMS can accommodate them in a systematic manner, to ensure they are actually delivered.

4.3.6 EMS scope has traditionally reflected industrial environmental interactions, e.g. waste, discharges, emissions, noise and energy. However, the EMS framework can be used to manage and monitor other aspects. MOD has developed Integrated Land Management Plans to apply EMS approaches to rural themes such as:

- Relationships with estate tenants and local communities;
- Public access and recreation opportunities;
- Nature conservation;
- Landscape;
- Cultural heritage.

4.3.7 Similarly, the EMS approach may be used to capture management of some of the social and economic performance objectives under the *Framework for Sustainable Development on the Government Estate*. For example, addition of procurement, estate management, employee quality of life and community aspects could turn a traditional EMS into a Sustainability Management System.

### **Establishment Development Plans**

4.3.8 Most major MOD sites have an Establishment Development Plan (EDP), which takes a holistic view of the site, current activities, development opportunities and known threats and constraints. EDPs are a reference source during a SA containing details of heritage or ecological features, Planning issues, social and community issues, infrastructure and utility characteristics. EDPs may facilitate a cumulative view of a proposal in the context of existing activities and issues.

### **United States Forces (USF) approaches**

4.3.9 United States Forces are a different client to the rest of UK MOD in that they apply US environmental management practices and operating procedures as well as host-nation standards to their UK activities. DE USF have tailored their own policy information note on SA, which centres upon use of this Handbook.

## **4.4 PROCUREMENT, DESIGN AND CONSTRUCTION INITIATIVES**

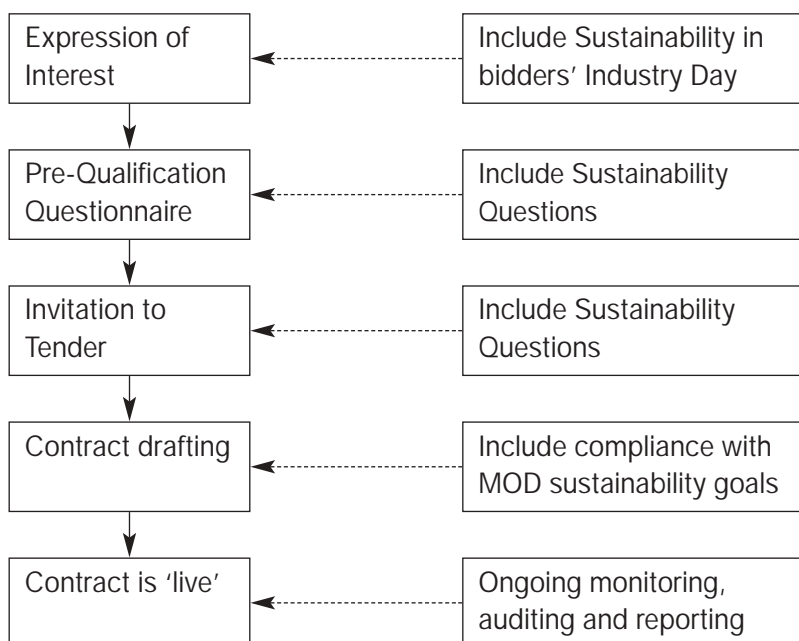
4.4.1 SA is often applied to projects at an early stage and influences the ultimate design and delivery. Project delivery is increasingly undertaken through partnering arrangements and this section describes how sustainability can be incorporated. Issues such as use of materials, energy and water can be delivered by sustainable design of buildings and infrastructure, so this section also describes some sustainable design and construction initiatives.

### **Partnering arrangements**

4.4.2 Industry Partnerships are increasingly delivering new infrastructure and equipment projects or estate services and maintenance. Partnerships include:

- Regional Prime Contracts (e.g. Scotland, Southwest);
- Functional Prime Contracts (e.g. SLAM);
- Standalone Prime Contracts (e.g. Catterick SDR, JNBC Barracks);
- Private Finance Initiatives (PFI) (e.g. Marchwood Barracks rebuild);
- Public Private Partnerships (PPP).

4.4.3 Defence Estates has developed guidance for incorporating sustainability criteria into the selection process for bidders, to help ensure that the eventual contractor is capable of helping MOD fulfil its environmental and sustainability obligations. The main sustainability interventions in bidder selection are:



4.4.4 SAs must still be undertaken on Partnership projects, as the projects are owned by MOD. Chapter Two illustrated the stages in project definition and delivery where SA should apply. The IPT (MOD and the contractor) should work to undertake any further assessment work the initial appraisal identified, and ensure design options for the final build are informed by sustainability factors.

### Design and construction

4.4.5 SAs for new construction and infrastructure requirements should prompt consideration of sustainable design and construction practices. The UK sustainable construction strategy, *Building a Better Quality of Life* (2000) gives indicators and good practice guidance. Sustainable design themes include:

- Energy efficient technology;
- Water saving devices, grey water recycling technology and rainwater capture;
- Choice of recycled or recyclable materials;
- Renewable energy technology e.g. solar panels, wind turbines;
- Insulation to minimise heat and energy loss;
- Optimisation of natural light and ventilation;
- Sensitivity to local landscape characteristics;
- Pedestrian and cycle-friendly routes and accommodation;
- Minimising footprint and using brownfield areas;
- Refurbishment versus new construction.

4.4.6 There are several sustainable design tools that project teams can use. Defence Estates' Design Excellence Evaluation Process (DEEP) was developed under MOD's *Better Defence Buildings* initiative, to optimise design quality across a building's function, impact and construction, with sustainability cutting across all three strands. US Forces apply the Leadership in Energy and Environmental Design (LEED) process to major Military Construction (Milcon) projects.

- 4.4.7 The Building Research Establishment Environmental Assessment Method (BREEAM) is the UK's most widely adopted tool for reviewing and improving environmental performance of buildings. The scheme can be applied to offices and industrial units, and has been adapted through their EcoHomes initiative for homes and apartments. Government policy is that new buildings should reach BREEAM 'Excellent' standards and refurbished buildings should reach BREEAM 'very good' standards. For more details on BREEAM, see [http://www.bre.co.uk/services/BREEAM\\_and\\_EcoHomes.html](http://www.bre.co.uk/services/BREEAM_and_EcoHomes.html) Big projects such as SLAM also tend to develop their own design criteria and standards.
- 4.4.8 The Government Construction Clients Panel (GCCP) *Achieving Sustainability in Construction Procurement* (2000) guidelines, *Respect for People* toolkit (2002) help assess wider sustainability aspects of construction such as workforce satisfaction, health and safety, equality and diversity and training.
- 4.4.9 The *Framework for Sustainable Development on the Government Estate* (2002) set procurement targets for purchase of sustainable timber, non-ozone depleting air conditioning systems and recycled paper. Framework targets for energy, water and waste can also be met by building relevant technologies into new construction or refurbishment.
- 4.4.10 The Movement for Innovation (M4I) have developed guidance and a tool for evaluating how sustainable a construction proposal is, with improvement ideas.
- 4.4.11 Life Cycle Analysis and Through-Life (or Whole-Life) Costing techniques can be applied to design processes to assess environmental impacts and costs of materials from acquisition, transportation, through the lifetime of the structure (including maintenance) to eventual disposal.

# **The Sustainability Appraisal Handbook**

*For the MOD Estate*

*Section Two:*  
**Appraisal  
Method**



# CHAPTER 5: SUSTAINABILITY APPRAISAL METHODOLOGY

## 5.1 INTRODUCTION

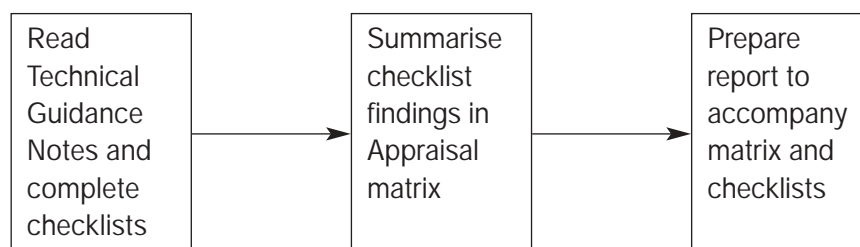
So far, the Handbook has given a lot of background information to Sustainability Appraisal. This section now presents the actual method and tool.

The main component of the appraisal comprises the checklists in the Technical Guidance Notes section (Chapter Six). Chapter Seven presents a worked example of a completed appraisal. Chapter Eight contains a set of blank checklists to extract and fill in, as well as a blank matrix and report template to summarise the main issues. This chapter describes the full appraisal process and gives guidance on all stages from preparation, through to completing the final report.

## 5.2 OVERALL APPRAISAL PROCESS

5.2.1 Figure 5.1 summarises the main stages of the full Handbook appraisal method.

*Fig. 5.1: Summary of the Handbook Sustainability Appraisal process*



5.2.2 This Sustainability Appraisal methodology follows a best-practice approach but has been designed for use by people who are not sustainability specialists. Once the tool has been used a few times, the process becomes more familiar and rapid, although seek advice if uncertain. For the briefest level of appraisals, it is possible to just use the matrix to investigate broad issues in each theme.

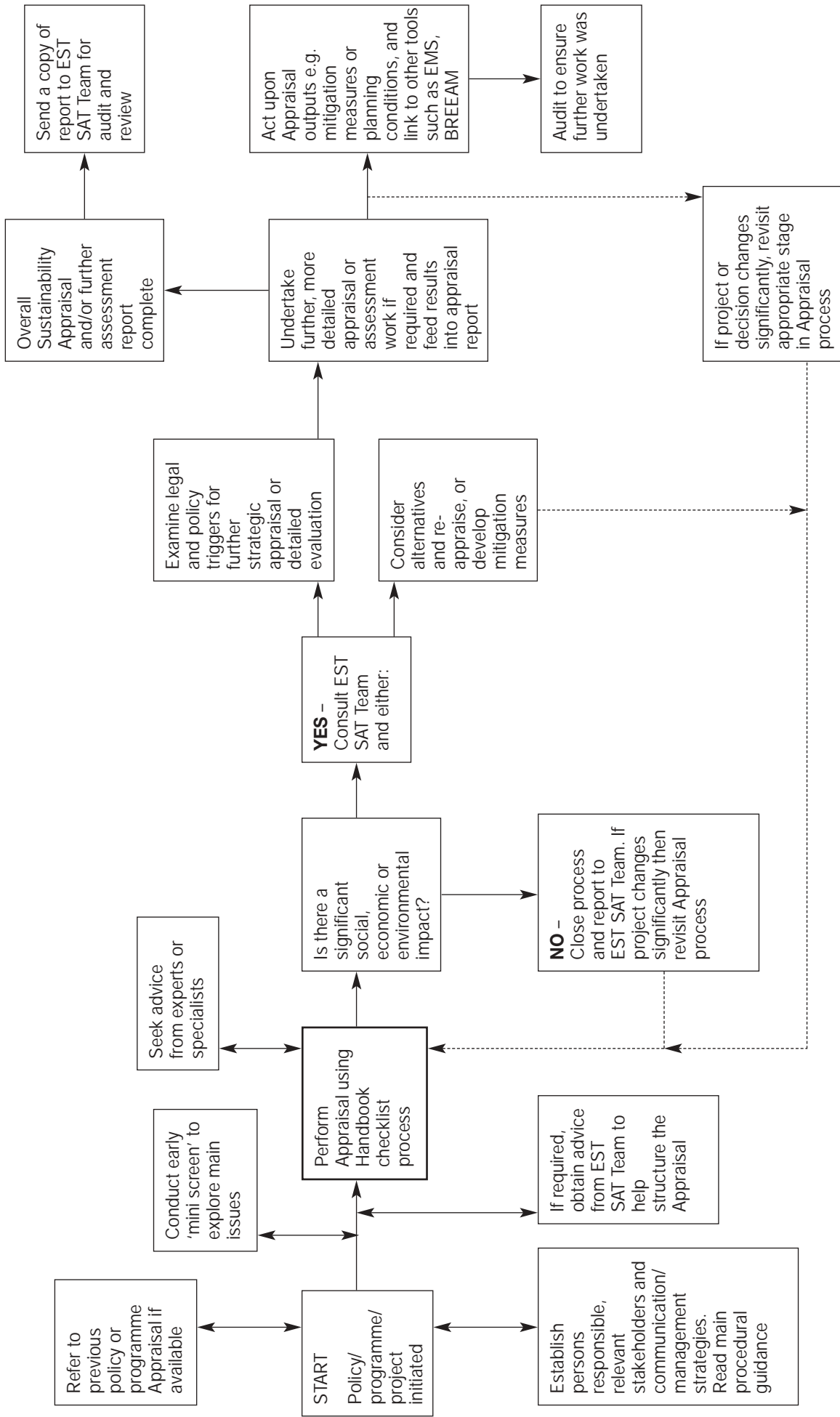
5.2.3 Figure 5.2, overleaf, illustrates the entire Sustainability Appraisal process. This chapter describes the main stages of:

- Preparing for the appraisal;
- Reading the Technical Guidance Notes and completing the checklists;
- Completing the Appraisal Matrix;
- Preparing a summary report;
- Planning and undertaking any further assessment or mitigation work.

## 5.3 PREPARATION FOR THE APPRAISAL

5.3.1 Sustainability objectives should be designed into a proposal as it develops. However, it is often more practical to appraise a defined proposal, so the first step is to gain clarity about the subject of the appraisal. There should still be scope for the appraisal to inform the outcome of the proposal, and appraisals must certainly not be 'retro-fitted' to a fully defined project to claim completion.

Fig. 5.2: Overall Sustainability Appraisal process map



- 5.3.2 There are a number of administrative tasks before an appraisal. The project team should allocate responsibility for completion. It may be completed by a member of the project team, a group of people, or it could be transferred to consultants. It is best undertaken by a mixed group of people including project staff, site representatives and DE or TLB environmental advisers. Appraisals can be subjective exercises and different people approach them with different perspectives and knowledge, so it is good to get mixed views and contributions.
- 5.3.3 The appraisers should have lines of communication with project decision-makers and budget holders to allow the results to inform decisions and allow mitigating actions or alternatives to be funded. A strategy should also be in place for consultation with external parties such as the local authority, subject specialists or community representatives.
- 5.3.4 Boundaries should be set on the appraisal. For example, if three discrete sites are being closed to create one new combined site elsewhere, choose whether the appraisal covers:
- Only impacts at the new site;
  - Net impacts across the proposal as a whole (old plus new site issues);
  - Each site in separate appraisals.
- 5.3.5 Resources should be allocated, such as the time of project staff or internal environmental advisers, or consultants' fees if the work is commissioned. SA should also inform investment appraisals of options, as each option may require different levels of resources for further assessment or mitigation.
- 5.3.6 SA should be applied to policies and programmes to highlight significant issues early on. When the policy or programme generates a defined project, the detailed project appraisal should be informed by the earlier appraisal findings.

## **5.4 STAGE ONE – TECHNICAL GUIDANCE NOTES AND CHECKLISTS**

- 5.4.1 The Technical Guidance Notes in Chapter Six are a background information resource for a series of 15 Sustainability themes, and their associated checklists comprise the first stage of the appraisal process. The themes are:
- A Climate Change and Air Quality;
  - B Transport;
  - C Energy Consumption;
  - D Noise and Vibration;
  - E Water and Drainage;
  - F Waste;
  - G Land, Buildings and Construction Materials;
  - H Geology and Soils;
  - I Biodiversity and Nature Conservation;
  - J Archaeology and Historic Environment;
  - K Landscape and Townscape;
  - L Health, Safety and Crime;
  - M Communities and Social Values;
  - N Infrastructure and Amenities;
  - O Economy and Employment.

- 5.4.2 The themes do overlap, e.g. an activity that alters natural drainage may impact directly in the field of Water and Drainage, and indirectly in Biodiversity and Nature Conservation, Geology and Soils, or Health, Safety and Crime.

### **Structure of the Technical Guidance Notes**

- 5.4.3 Each note begins with a series of broad Sustainable Development performance objectives for that topic. A concise sustainability objective can be found at the start of each checklist and is given again for each theme in the appraisal matrix.
- 5.4.4 The notes then illustrate why the theme is important, from the perspective of global threats and the need to minimise or reverse trends of long-term degradation. Legislation, policy and targets to minimise impacts and improve performance are also presented.
- 5.4.5 The notes then highlight a variety of MOD activities that may cause impacts in that field, to get the appraiser thinking as widely as possible about potential ramifications of proposals and their constituent elements.
- 5.4.6 If negative impacts are identified, alternative solutions or mitigation measures must be explored to minimise adverse effects. Ideally, projects should look beyond impact minimisation and seek to enhance sustainability performance. Mitigation and enhancement suggestions have been given for each theme, as well as good practice case studies where MOD has performed well in a theme.
- 5.4.7 Contact details for relevant organisations are given, with references to further information. Each note ends with a checklist – the practical appraisal stage. An example of a checklist is provided in Figure 5.3, overleaf.

### **Working through the Technical Guidance Note Checklists**

- 5.4.8 Once the notes for each theme have been read, the appraiser should be familiar with the variety of potential issues and impacts, and should start to think how elements of the project or proposal may relate to that theme. These thoughts form the springboard into completion of the checklists.
- 5.4.9 The questions in the checklists are by no means comprehensive, and space is given to consider further issues within each theme. However, the questions are phrased in a generic manner to promote interpretation and lateral thinking.
- 5.4.10 Each checklist question has a series of options to be ticked – not applicable (for example there may not be any firing or vehicle driving associated with the proposal), whether the proposal causes a positive change, no change or a negative change. Alongside these options lies a box to explain why the change is positive, negative, or not applicable. It is important to show the rationale behind judgements to demonstrate that issues were properly thought through.
- 5.4.11 For example in the Climate Change and Air Quality checklist, the item, 'Change in indoor air quality due to different layout or materials' may be ticked as a positive change and explained as "The project entails demolishing poorly ventilated old buildings with a new, airy complex with natural ventilation". If there is not enough clarity on the project outcome to be able to state a positive or negative change, then one must be precautionary and assume a worst case option until it can be proved there is no impact. This may be accompanied with a suggestion in the 'action required' box to the effect of, "This has potential to be a positive change as the office refurbishment presents an opportunity to replace old plastic and synthetic furnishings with natural materials and finishes".
- 5.4.12 A *precautionary* approach must be adopted when stating whether there is an impact or not. If there is not enough information to be able to say with reasonable certainty that there is no impact, then one cannot state that there is no impact. It is perfectly acceptable to state that, 'there may or may not be a negative impact but further research or assessment will be required when the project outcome becomes more clearly defined'. Appraisals should identify potential issues, rather than generate definitive statements or predictions.

Fig. 5.3 – Sample Checklist

**CHECKLIST FOR THEME A: CLIMATE CHANGE AND AIR QUALITY**

Overall objective: *Minimise greenhouse gas emissions and pollution of air with gases and particulates.*

POTENTIAL ISSUES	IMPACT				COMMENTS ON IMPACT	ACTION REQUIRED
	n/a	+ve	no	-ve		
Change in level of CFC/HFC usage						
Change in amount of dust produced by e.g. firing, off-road driving or construction						
Change in amount of waste incineration or other combustion activities						
Change in reliance on fossil fuels for energy generation or vehicle use						
Change in production of atmospheric pollutants from industrial processes						
Change in type and firing intensity of weapons or explosives						
Change in indoor air quality due to different layout or materials						
Other climate change or air quality issues						

**STAKEHOLDERS CONSULTED AND REFERENCES USED**

**SUSTAINABILITY SCORE FOR THIS THEME**

A	B	C	D	E

**PRIORITY ACTIONS AND RESOURCES REQUIRED**

5.4.13 When identifying impacts, it is important to look beyond the direct influences of a proposal. Boundaries have to be set on the appraisal scope, but the proposal may generate significant indirect or off-site impacts. Some effects of a project may be insignificant in themselves, but when considered in combination with other activities nearby or at the same time, the cumulative (overall) effect may be substantial. Estate Advisers or Establishment Heads can offer strategic perspectives on activities. Appraisals should acknowledge the context of local impacts in the public or private sector, beyond MOD control.

5.4.14 Each checklist sheet has a section for allocating a sustainability score. This provides an opportunity to record the extent to which the project or proposal supports or contradicts the sustainability objectives for that theme. The objectives have been distilled into a single, concise objective below the title for each checklist sheet. The five scoring categories are:

A	B	C	D	E
Good proactive enhancement in sustainability performance.	Slight proactive enhancement in sustainability performance.	Some impacts but they are neutralised by mitigation.	Slight negative impacts, or negatives that are not wholly neutralised by mitigation.	Significant negative impacts, especially ones that cannot be mitigated.
Avoidance of negative impacts.	Minor negative impacts but good mitigation enhances the situation.		Local or short-term negatives.	Spatially extensive detriment.
Spatially extensive benefits.	Local or short-term enhancement.		Minor indirect impacts.	Permanently irreversible.
Permanent enhancement.	Indirect benefits.			Direct and major indirect impacts.
Direct benefits.				

5.4.15 Levels of significance can also be determined by considering if the impact is:

- Reversible or irreversible;
- Short-term/temporary or long-term/permanent;
- Direct or indirect;
- Local or extensive;
- Covered by legislation or unregulated.

Indicative suggestions of activities that may fall into each scoring category are presented in each guidance note.

5.4.16 The checklists for each theme have been extracted and collated into a set of blank checklists in Chapter Eight, so they can be photocopied and filled in. Alternatively, they can be filled in electronically using the version available on the web. The checklists constitute the 'rough' working so the standards of presentation do not need to be high! The scores and significant issues are presented more formally and concisely in the summary matrix and report.

### Stakeholder engagement

5.4.17 During the appraisal, a variety of knowledgeable stakeholders should be consulted reference material used. This is to improve the accuracy of impact predictions by making them more objective, quantified and informed. Details are given of internal and external contact points and references for each theme.

- 5.4.18 MOD has procedures and guidelines for stakeholder engagement and public consultation, depending on the issues concerned and the audience sought. MOD is committed to engaging with the full range of stakeholders to ensure that expertise and knowledge are incorporated and all interests are considered. Key stakeholders includes, for example, Statutory Bodies, Planning Authorities who are statutory consultees as well as a wide range of NGOs and specialist interest groups.
- 5.4.19 Defence Council Instructions exist for consultation and engagement, and appropriate channels should be used. Consultation should encompass internal staff and end-users of the project, not just external bodies.
- 5.4.20 Each checklist has a box to list who has been consulted and what reference material has been used. This demonstrates the rigour behind evaluating scores and assessing the significance of impacts. There is also a box to explicitly emphasise the priority actions and consequent resource requirements.

### **Mitigation measures**

- 5.4.21 The presence of mitigation measures can be an important factor when allocating sustainability scores. If a negative impact is identified, it must be scored as a negative impact. However, the 'Action Required' column should be used to suggest measures that could alleviate the impact and bring the score back to neutral or positive. If mitigation measures have already been resourced and set in train, then a neutral or positive score can be given, but not until it is clear that successful measures will definitely be implemented.
- 5.4.22 Mitigation measures follow a hierarchy as follows:
- **Enhancement** – where there are no negative impacts, but measures are adopted to achieve a positive move towards sustainability objectives. This is the optimum scenario;
  - **Avoidance or reduction** – negative impacts are avoided or minimised;
  - **Mitigation** – where negative impacts occur but measures can be put in place to ameliorate them;
  - **Compensation** – where negative impacts occur that cannot be mitigated, e.g. if an area of habitat is unavoidably damaged, one may compensate by recreating similar habitat elsewhere. Compensation is a last resort.
- 5.4.23 The overall aim of appraisals is to integrate and optimise the whole spectrum of sustainability issues into a proposal, not trade off one against the other. It is not acceptable to justify poor performance in some themes by gains in others.
- 5.4.24 When choosing mitigation measures, check the measures themselves do not cause negative impacts. For example, areas of habitat can be protected from training activities by installing fences. However, if the area contains archaeological interest, buried features may be damaged by the fence posts.

### **Evaluating requirements for Statutory Environmental Assessments**

- 5.4.25 After the blank checklists in Chapter Eight there is a separate form for recording whether the project or proposal triggers further, Statutory assessments, e.g.:
- Environmental Impact Assessment, under Town and Country Planning and related Regulations;
  - Appropriate Assessment, under EU Habitats and Birds Directives and Planning Policy for Ramsar wetland sites;
  - Archaeological Evaluation, under Planning Policy (PPG 15 and 16).

- 5.4.26 Guidance on when EIAs, Appropriate Assessments and Archaeological Evaluations are needed can be found in Chapter Nine, Chapter Ten and the Guidance Note for Theme J in Chapter Six respectively.
- 5.4.27 Where applicable, these statutory assessments must be completed before Planning approval is determined, either through the conventional planning process or the Notice of Proposed Development (NOPD) process under Circular 18/84. Project teams must consult, through the appropriate Defence Estates focal points, with the Local Planning Authority and the relevant Statutory Advisory Body.

## **5.5 STAGE TWO – APPRAISAL MATRIX**

- 5.5.1 The checklist stage constitutes the bulk of the work in an appraisal. However, the collection of completed checklists can represent a bulky pile of detailed 'rough' work. Project Managers and decision-makers need to be able to quickly view the main issues and actions required, so the checklist information should be summarised in an appraisal matrix and a brief summary report.
- 5.5.2 The appraisal matrix lists each of the 15 sustainability themes and objectives and gives an opportunity to record the score from A to E, as allocated at the checklist stage. There is also an opportunity to state if the issue was not applicable (n/a). Whatever the score recorded, the 'commentary' box must be used to explain why the theme is not applicable, or why that A to E score was given. Briefly summarise the main positive or negative issues and impacts.
- 5.5.3 The 'Action Required' box should be used to summarise any further assessment or mitigation needed and how this would raise the score to neutral or positive. This box can also be used to outline financial resource implications and consequences of not implementing such work.
- 5.5.4 The bottom line of the appraisal matrix allows the appraiser to record whether a further Statutory assessment such as Environmental Impact Assessment, Appropriate Assessment or Archaeological Evaluation is required. A section of the matrix is illustrated in Figure 5.4, opposite.

## **5.6 SUMMARY REPORT**

- 5.6.1 A summary report should be compiled to accompany the matrix and checklists. The report should give a brief description of the project or proposal and summarise the main issues, impacts and actions required, along with potential obstacles or consequences of not undertaking recommended further work.
- 5.6.2 The summary report can be presented in any format, as long as it includes the following elements:
- Cover sheet, identifying origin and title of project or proposal;
  - Name of Project Manager, Project Sponsor;
  - Name and environmental/sustainability credentials of the appraiser(s);
  - Brief description of project or proposal stating aims, outcomes, changes from the existing situation, numbers of e.g. people, vehicles, equipment, buildings etc involved;
  - Brief description of the site(s) involved, including existing buildings and processes, known development constraints or objectives, known environmental or community issues. Use Defence Estates' four letter establishment code to clarify location;
  - Map of the site or diagrams related to the project or proposal;
  - Date of appraisal;
  - How the appraisal was undertaken (workshop, an individual, consultants);
  - People consulted and reference material used during the appraisal;
  - Reference to other MOD and non-MOD impacts in the locality to illustrate cumulative effects;

Fig. 5.4 – Extract from Sustainability Appraisal Matrix

THEME AND OBJECTIVES	SCORE						COMMENTARY	ACTION REQUIRED
	n/a	A	B	C	D	E		
<b>A – Climate Change and Air Quality</b> Minimise greenhouse gas emissions and pollution of air with gases and particulates.								
<b>B – Travel and Transport</b> Minimise amount of travelling required, particularly via roads and private cars.								
<b>C – Energy Consumption</b> Minimise total energy consumption and support the use of renewable energy rather than fossil fuel sources.								
<b>D – Noise and Vibration</b> Minimise disturbance to people and wildlife from noise and vibration.								
<b>E – Water and Drainage</b> Reduce total water consumption and minimise risks of water pollution and flooding.								

- The main positive and negative sustainability issues for each theme;
- The main actions required, such as further assessment or mitigation;
- Suggestions of resources needed for further work, with implications for the project or proposal if it is not carried out;
- Action plan for how any further data collection or ongoing management and monitoring work will be delivered and audited;
- A description of how the appraisal findings have changed aspects of the project or proposal.

5.6.3 The appraisal findings should be presented as the report with title page, then the completed matrix, with the completed checklists added at the back to demonstrate the detailed 'rough' working.

## **5.7 AFTER THE APPRAISAL**

5.7.1 The purpose of SA is to allow decisions to be informed by environmental, social and economic factors. Therefore, the appraisal results must be communicated to decision-makers, and there must be an opportunity created in the decision-making process to allow outcomes to be influenced where recommended. Interested parties may include:

- The whole project team, including the customer, delivery IPT and Design consultants;
- Finance staff;
- Appropriate Estate Advisers/Surveyors if there are Planning issues.

5.7.2 Appraisals should be iterative rather than a discrete process that reflects a 'snapshot' in time. If projects change significantly, or greater clarity emerges on the actual design and outcomes, they should be re-appraised, as the changes may stimulate impacts that would not have been generated originally.

5.7.3 The project team should have consulted specialist teams e.g. Defence Estates' Sustainability Advisory Team (SAT) for advice during the appraisal process. The SAT team also has a Quality Assurance role and can review completed appraisals to see if they are adequate. If the team is informed of appraisals, statistics can be compiled for departmental reporting of numbers of appraisals undertaken. A central database of appraisals and impacts can also be a useful resource to identify significant cumulative effects from combinations of projects. The team can also suggest appropriate subject specialists or consultants.

5.7.4 If the appraisal identifies a requirement for any ongoing monitoring, management or mitigation work, then systems should be identified to ensure that these are actually delivered. Ongoing work may be captured by Environmental Management System frameworks, with EMS or separate audit procedures adopted to ensure their delivery. If more detailed studies or Statutory Assessments are needed, consultants may need to be engaged and Statements of Requirement developed.

# CHAPTER 6: TECHNICAL GUIDANCE NOTES

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## 6.1 INTRODUCTION

6.1.1 This chapter contains a set of guidance notes and checklists for each of the sustainability themes covered by this Sustainability Appraisal process, illustrated in Figure 6.1, below. See Chapter Five for full guidance on how to use the notes and complete the checklists.

*Fig. 6.1: Handbook Sustainability Appraisal themes*

Theme ID	Theme title
A	Climate Change and Air Quality
B	Travel and Transport
C	Energy Consumption
D	Noise and Vibration
E	Water and Drainage
F	Waste
G	Land, Buildings and Construction Materials
H	Geology and Soils
I	Biodiversity and Nature Conservation
J	Archaeology and the Historic Environment
K	Landscape and Townscape
L	Health, Safety and Crime
M	Communities and Social Values
N	Infrastructure and Amenities
O	Economy and Employment

6.1.2 The themes all follow the same structure:

- Overarching sustainability objectives;
- The importance of the theme to MOD;
- MOD activities and impacts;
- Mitigation suggestions;
- Contacts and references;
- Checklist.

6.1.3 Each topic note begins with a set of Sustainability Objectives. These are over-arching aspirations to promote Sustainable Development in that theme.

6.1.4 The second section outlines why the theme is important to the MOD, highlighting relevant characteristics of the department and its activities, and describing legislative and policy commitments that MOD must meet. SA provides an opportunity for sustainability targets and goals to be built into projects and decisions early on.

- 6.1.5 The third section introduces the appraiser to the variety of MOD activities that may interact with each theme, and the nature of impacts that may be caused.
- 6.1.6 The fourth section presents ideas for mitigating or alleviating negative impacts if they cannot be avoided.
- 6.1.7 Each theme contains a box that illustrates how impacts and projects may be allocated a sustainability score, depending on the level to which the project or proposal supports or contradicts sustainable development objectives.
- 6.1.8 Each theme contains a brief good practice case study, depicting how an MOD project or initiative has embraced sustainability objectives for the topic.
- 6.1.9 SA should be informed by researching the site and subject themes, and consulting with subject experts or specialist interest groups. Suggested reference material and sources of expertise are provided for each theme.
- 6.1.10 These notes are intended to raise awareness of a variety of sustainability issues and the variety of MOD activities that could cause impacts. Other recommended sources of strategic and subject-specific guidance include:
- The Estate Strategy, *In Trust and On Trust*;
  - Joint Service Publications, particularly 418 (*Environment Manual*) and 362 (*Lands Manual*);
  - Defence Estates Town and Country Planning Technical Bulletins;
  - *MOD Conservation Manual* (for historic and listed buildings);
  - *Design Better Defence Buildings*;
  - *Framework for Sustainable Development on the Government Estate*.
  - Defence Estates *Rural Good Practice Guidance Notes*, which contain comprehensive guidance on the following themes:
    - landscape protection and enhancement;
    - nature conservation;
    - historic environment;
    - access and recreation;
    - relationships with agricultural and other tenants and licencees;
    - relationships with local communities;
    - coastal management;
    - woodland management;
    - use of private land for training;
    - disposal and acquisition of property.
- 6.1.11 Internal training courses are available for those wishing to become better acquainted with environmental protection, sustainability, Environmental Management Systems, law and policy, or in specific fields such as air and noise, energy management, waste management, conservation and pollution prevention. The primary training provider within MOD is the Department of Specialist Management Training (DSMT) at RAF Halton.

- 6.1.12 The last section is the practical checklist for that theme. This pulls together the salient points and issues so the proposal can be assessed. There are also boxes to record the sustainability 'score' for that theme, state who has been consulted with, what references have been used, and main actions required.
- 6.1.13 Use the detailed guidance in Chapter Five to help you progress through the stages of the appraisal methodology effectively. The checklists for each guidance note have been amalgamated into a set of combined checklists in Chapter Seven for ease of extraction, photocopying and completion, but refer to the appropriate guidance note for each theme when completing the checklist. Chapter Seven also contains a form to record if any Statutory assessment is required, along with a blank appraisal matrix. The worked example in Chapter Eight illustrates the approach and detail expected.



## THEME A: CLIMATE CHANGE AND AIR QUALITY

### *Sustainability Objectives*

- To achieve major long term cuts in greenhouse gas emissions;
- To improve the quality of our air by minimising air pollution by gases and particulate matter.

### WHY THIS THEME IS IMPORTANT TO MOD

- A1. Climate change and air quality are important topics for MOD due to a combination of legislative requirements and characteristics of the Department and its estate. Climate change and air quality are influenced by transport and energy use, considered in more detail in Themes B and C respectively.
- A2. Global climate change is regarded as one of the greatest environmental challenges facing the world today. Research has indicated that persistent releases of gases such as carbon dioxide (CO<sub>2</sub>) and methane (CH<sub>4</sub>), primarily from burning fossil fuels, are stimulating a 'Greenhouse Effect', whereby such gases trap outgoing heat radiation and reflect it back to earth. Observed trends of gradual climate warming may result in:
- Sea level rise and inundation of low lying coastal areas;
  - Melting of ice caps or glaciers;
  - Evaporation or saline contamination of freshwater resources;
  - Greater frequency of storms and extreme weather events;
  - Health impacts such as heat stress and enhanced disease proliferation;
  - Loss or geographical shift of ecosystems and habitat types.
- A3. Depletion of the ozone layer is another alarming trend that has been recorded. The ozone layer is a high atmosphere band that reflects a proportion of incoming UVB solar radiation. Chlorofluorocarbons (CFCs), Hydrofluorocarbons (HFCs) and Halons released from e.g. cooling systems, aerosol pumps and halon fire extinguishers have steadily degraded ozone, leading to thinning and perforation of the layer. The increased amounts of UVB radiation reaching earth may lead to an increase in skin cancers and altered rates of growth in plants and marine plankton.
- A4. Burning of fossil fuels (either in power stations or transport) leads to emissions of sulphur dioxide and oxides of nitrogen. The gases mix with water in the atmosphere to create sulphuric and nitric acids which, in rainfall, can attack stonework on buildings and damage vegetation by stripping protective waxes off leaves. Such gases can also react in the presence of sunlight to form photochemical smog, which can reduce visibility, irritate the eyes and lungs and impair vegetation.
- A5. General air quality is diminished by the release of any air pollutant, including emissions from factory chimney stacks, dust from construction or vehicles, exhaust emissions and black smoke. Impacts include:
- Harm to health if irritants and particles are inhaled (e.g. increase in severity of asthma symptoms);
  - Deposition of soot and dirt onto buildings and surfaces;
  - Inhibited plant growth if coated with soot or dust;
  - Smog and reduced visibility.

- A6. As a Government department, the MOD must comply with UK legislation and policy supporting Climate Change and Air Quality objectives. The UK has signed up to International Treaties to reduce air pollution. The Montreal Protocol sets targets to phase out use of CFCs, HFCs and other Halons. The Kyoto Protocol target is to reduce greenhouse gas emissions by 12.5% below 1990 levels by 2010 (a 1% per year reduction from buildings). The Geneva Convention 1979 considers problems of trans-boundary air pollution.
- A7. Air Quality is subject to Integrated Pollution Prevention and Control (IPPC) measures under the Environmental Protection Act 1990 and Pollution Prevention and Control Regulations 2000. The Clean Air Act 1993 lays out regulations for smoke, dust and other contaminants, all of which are reinforced by air quality objectives of the Environment Act 1995. The Pollution Prevention and Control Regulations 2000 also update IPC regulations for release of substances into the air.
- A8. The Air Quality Strategy for the UK and the *Framework for Sustainable Development on the Government Estate* (2002) reflect these and other aspirations such as reducing Carbon Dioxide emissions by 60% by 2050. Sustainability Appraisal (SA) helps to build such commitments and targets into a new project or proposal from the earliest stage.

## **MOD ACTIVITIES AND IMPACTS**

- A9. MOD has an extensive built estate requiring heating and lighting. Generators, boilers and engines can all emit greenhouse or other gases, and smoke.
- A10. Military and civilian activities can involve significant amounts of vehicle use. Vehicles produce exhaust emissions and heavy off-road and construction vehicles can raise dust and cause disturbance through noise and vibration. Vehicle and transport impacts are considered in more detail in Theme B.
- A11. Use of weapons and explosives during military training and testing can release contaminants into the atmosphere. Contamination can arise from the gases and propellants used when firing, and the smoke, metals and other particulates released when the round explodes. The impact of shells can also raise quantities of dust, or initiate vegetation fires in dry periods.
- A12. Air conditioning systems in buildings and cooling systems and fire suppressants on ships and aircraft have often used CFCs and HFCs. Alternative solutions should be adopted for new buildings and equipment, and refurbishment programmes for buildings and equipment should incorporate the phasing out and replacement of such materials.
- A13. MOD produces large volumes of waste per year. If this waste is incinerated, smoke and gases can be released. Methane and other gases can also be released when organic waste decomposes in landfill sites. Waste reduction and recycling can minimise gas release, or methane from controlled digestion can be used as fuel.
- A14. The MOD estate is fairly dynamic, with a rolling programme of decommissioning and replacement or refurbishment of facilities. Construction and demolition activities can introduce large quantities of dust into local atmospheres. Ongoing maintenance of buildings and equipment (e.g. de-painting and re-painting aircraft) can release gases from solvents or paints.
- A15. In a department with such a large built estate, indoor air quality can be an important consideration. Sick Building Syndrome is associated with poor indoor air quality, and may originate as a result of:
- Poor ventilation and recirculation of stale air;
  - Ozone produced by photocopiers;
  - Oxygen depletion or carbon monoxide from inefficient heating and boilers;
  - Release of polycyclic aromatic hydrocarbons (PAH) and volatile organic compounds (VOC) from plastics, furniture veneers, paints and polishes.

## MITIGATION OR ENHANCEMENT OPPORTUNITIES

- A16. The following suggestions can help offset some of the potential negative impacts that SA may identify, and provide ideas to enhance a proposal.
- Undertake further assessments to evaluate baseline or proposed climate change and air quality impacts if they are likely to be significant.
  - Educate the project team and end-users about climate change and air quality issues, and promote behavioural changes and mitigation measures to alleviate negative impacts.
  - Construction – establish a ‘green’ code of practice with contractors to employ practices and technology to minimise dust releases.
  - Use Best Available Techniques (which are statutory) and Standard Operating Procedures to minimise emissions from industrial processes, e.g. fit filters or scrubbers to outlets such as chimneys and exhaust pipes.
  - Reduce the amounts of waste sent for incineration or to landfill, by overall minimisation and recycling.
  - Explore alternatively fuelled vehicles, at least for white fleet.
  - Regularly monitor the efficiency and emissions of boilers, vehicles and other sources of air contamination.
  - To minimise Sick Building Syndrome, consider the internal layout of new buildings to promote ventilation and avoid e.g. desks near to photocopiers.
  - Choose natural or non-volatile materials, varnishes and cleaning products to minimise release of gases.

## ILLUSTRATIVE EXAMPLES OF SCORING IN THIS THEME

A	B	C	D	E
Removal of CFCs/HFCs in favour of natural or less damaging products	Use of dust suppression measures during construction activities	Occasional change in frequency of live firing (gains or reductions)	Increase in the amount of waste incinerated	Permanent/widespread increase in emission of harmful gaseous or particulate pollutants

### *Good Practice Case Study*

The buildings at MOD Abbey Wood, Bristol have been fitted with high efficiency boilers and specially designed chimneys to significantly reduce the amount of nitrous oxide released into the atmosphere.

## CONTACTS

### *Internal*

- Defence Estates Sustainability Policy and Strategy (Built), Sutton Coldfield – Tel: 0121 311 2018.
- Defence Estates Environmental Support Team, Sustainability Advisory Team (EST SAT), Durrington, moving to Westdown Camp.
- MOD D SEF Pol (policy and ministerial level advice), St Giles Court, London.
- CESOs and Environmental Focal points for each TLB.
- Regional, Establishment, base or Unit Environmental focal points.

### *External*

- Department for Environment, Food and Rural Affairs (meeting government objectives and targets) – **[www.defra.gov.uk](http://www.defra.gov.uk)**.
- The Environment Agency (Integrated Pollution Control) – **[www.environment-agency.gov.uk](http://www.environment-agency.gov.uk)**.  
Tel: 08459 333111.
- The District Council or Unitary Authority (Local Authority Air Pollution Control).
- The Scottish Environment Protection Agency (SEPA) – **[www.sepa.org.uk](http://www.sepa.org.uk)**. Tel: 01786 457700.
- National Society for Clean Air – **[www.nasca.org.uk](http://www.nasca.org.uk)**. Tel: 01273 878770.
- National Air Quality Information Archive – **[www.aeat.co.uk/netcen/airqual](http://www.aeat.co.uk/netcen/airqual)**. Links to other relevant sites.

## INFORMATION AND REFERENCES

- DEFRA UK Climate Change Programme – **[www.defra.gov.uk/environment/climatechange](http://www.defra.gov.uk/environment/climatechange)**
- DEFRA Air Quality information resource – **[www.defra.gov.uk/environment/airquality.index.htm](http://www.defra.gov.uk/environment/airquality.index.htm)**
- DEFRA Pollution prevention and control information resource – **[www.defra.gov.uk/environment/ppc/index.htm](http://www.defra.gov.uk/environment/ppc/index.htm)**
- DETR: 2000: *Global Warming*.
- DETR: 2000: *The Air Quality Strategy for England, Scotland, Wales and Northern Ireland*.
- DETR: 2000: *Potential UK Adaptation Strategies for Climate Change: Summary and Technical Reports*.
- DETR: 2000: *Tackling Climate Change in the UK*.
- DETR: 1999: *Planning Policy Guidance Note 10: Planning and Waste Management*.
- DETR: 1994: *Planning Policy Guidance No 23: Planning and Pollution Control*.
- MOD JSP 375: *Health and Safety Handbook*.
- MOD JSP 418: *Environment Manual* (Chapters 7.1 and 7.2).
- ODPM: 1994: *Planning Policy Guidance Note 23: Planning and Pollution Control*.
- Royal Commission on Environmental Pollution: 2000: *Energy: The Changing Climate*.

### CHECKLIST FOR THEME A: CLIMATE CHANGE AND AIR QUALITY

Overall objective: *Minimise greenhouse gas emissions and pollution of air with gases and particulates.*

POTENTIAL ISSUES	IMPACT				COMMENTS ON IMPACT	ACTION REQUIRED
	n/a	+ve	no	-ve		
Change in level of CFC/HFC usage						
Change in amount of dust produced by e.g. firing, off-road driving or construction						
Change in amount of waste incineration or other combustion activities						
Change in reliance on fossil fuels for energy generation or vehicle use						
Change in production of atmospheric pollutants from industrial processes						
Change in type and firing intensity of weapons or explosives						
Change in indoor air quality due to different layout or materials						
Other climate change or air quality issues						

**STAKEHOLDERS CONSULTED AND REFERENCES USED**

**SUSTAINABILITY SCORE FOR THIS THEME**

A	B	C	D	E

**PRIORITY ACTIONS AND RESOURCES REQUIRED**



## THEME B: TRAVEL AND TRANSPORT

### *Sustainability Objectives*

- To promote a transport system that provides choice, minimises environmental harm and reduces congestion;
- To reduce the need to travel, especially by road;
- To improve the fuel efficiency of vehicles and encourage opportunities for safe walking and cycling;
- To reduce noise, vibration and fumes from transport and prevent habitat loss for new transport infrastructure.

### WHY THIS THEME IS IMPORTANT TO MOD

- B1. Travel and transport is an important topic for MOD due to a combination of legislative requirements and characteristics of the Department and its estate.
- B2. An efficient transport system is essential to support a strong, prosperous economy and to maintain and improve peoples' quality of life. However, congestion and unreliability of journey times add to the costs of business and may undermine competitiveness and efficiency. Exhaust emissions from high volumes of traffic contribute to deposits of soot and acid erosion on buildings, climate warming, and health impacts. Emissions include Nitrogen Oxides, Hydrocarbons, Carbon Monoxide, Carbon Dioxide, black smoke and particulates. It is estimated that up to 24,000 vulnerable people die prematurely each year and similar numbers are admitted to hospital through exposure to air pollution, much of which is due to road traffic.
- B3. The UK Government recognises the need for a radical change in transport policy and is promoting a transport system that provides choice, minimises environmental harm and reduces congestion. As a Government department, the MOD must comply with UK legislation and policies that support sustainable travel and transport objectives. The Road Traffic Reduction Act 1997 prompts Local Authorities to manage growth of road traffic. National and International targets have been adopted in relation to greenhouse gases, air pollution, railway freight, walking, cycling and use of sustainable public transport. These should be factored into MOD activities where relevant.
- B4. The *Framework for Sustainable Development on the Government Estate* (2002) has set targets to:
- Reduce road transport vehicle carbon dioxide emissions by at least 10% by reducing total business vehicle mileage, improving the fuel efficiency of vehicles and reducing the total amount of fuel consumed;
  - Ensure that 10% of all fleet cars are alternatively fuelled by 2010;
  - Reducing single occupancy car commuting by 5% by March 2010 (from 2002/03 baseline).
- MOD has developed a draft Sustainable Travel Strategy to meet these targets, to include Green Travel Plans and build upon travel aspects that may currently be dealt with in MOD Environmental Management Systems (EMS). Sustainability Appraisal (SA) presents an opportunity to build such commitments and targets into a new project or proposal from an early stage.

### MOD ACTIVITIES AND IMPACTS

- B5. MOD employs approximately 350,000 staff, many of whom have to travel to work by public or private transport. Any relocation or rationalisation of units or teams will alter the balance of commuting distances and transport types used.
- B6. Many staff regularly travel from their permanent duty station to other locations for meetings. Adoption of technology such as video-conferencing, e-mail and conference-calls can challenge the need to physically travel. If travel is unavoidable, locations that minimise the total distance travelled should be explored, and public transport and car sharing promoted when practicable.

- B7. Training the Armed Forces often entails a significant element of travel and vehicle use. This is reflected in both the need for units to travel to exercise destinations and the use of vehicles during the exercises (aircraft, wheeled or tracked vehicles and boats or amphibious craft). Defence restructuring and subsequent changes in location of units or training facilities will alter the distances travelled to get to exercises.
- B8. Changes in the nature of training or the types of units using a training area, harbour or air base may stimulate a change in the types of vehicles used on or in the vicinity of the site. This may have implications for local air quality, noise, dust or pressures on local road systems. Similarly, construction activities and the movement of heavy vehicles and plant can cause congestion on local roads. Careful timings of movements or creation of alternative access points may alleviate local congestion impacts.
- B9. Military garrisons or bases need constant inputs of supplies e.g. food, stationery, consumables, cleaning and maintenance teams and equipment, and regularly send waste away to be disposed of. Procurement of supply and disposal services should consider the proximity principle, sourcing goods close to where they are required and disposing of waste as near to its source as practicable. Both objectives minimise transport distances. Support functions e.g. personnel and IT units should also be close to their customers.
- B10. When purchasing vehicles (both operational and white fleet) or commissioning contractors for haulage or vehicle transportation, it is important to consider the through-life energy use and emissions. Ultra-low sulphur fuel and Liquid Propane Gas (LPG) solutions are becoming more widely available, and filters that trap particulate matter are now more sophisticated. It is also important to consider how vehicles can be disposed of safely at the end of their useful life, either through re-use (by selling them to responsible customers) or recycling the vehicle components.

## **MITIGATION OR ENHANCEMENT OPPORTUNITIES**

- B11. The following suggestions can help offset some of the potential negative impacts that SA may identify, and provide ideas to enhance a proposal.
- Undertake further assessment or monitoring of travel patterns to understand local baseline levels and the impact of the proposal.
  - Educate the project team and end-users about travel and transport issues, promoting behaviour changes and mitigation to alleviate impacts.
  - Encourage the provision of safe routes, storage areas and showers/changing facilities for walkers and cyclists.
  - Encourage use of public transport. Liaise with Local Authorities and transport providers on choice and timings of routes, alternative access points and bus/train stops.
  - Develop incentives for car sharing, particularly for work journeys (e.g. travelling to meetings) and for commuting. Make more use of video-conferencing, conference-calls and e-mail technology instead of travelling.
  - Programme heavy vehicle movements (e.g. military convoys, vehicle transporters, lorries or construction plant) outside peak travel hours.
  - Explore alternatives to cars, lorries and aircraft for freight transport (e.g. rail and water).
  - Procure supplies or dispose of waste as close to operations and installations as practicable.
  - Site units close to areas where they will need to train, and in proximity to other units, customers or organisations that they regularly interact with.

## ILLUSTRATIVE EXAMPLES OF SCORING IN THIS THEME

A	B	C	D	E
Introduction of alternatively fuelled vehicles or those with lower emission levels.  Increase in simulation over vehicle training	Routing of heavy vehicles to avoid sensitive receptors and congested periods	Localised or occasional changes in movement of troops or vehicles by road	Increase in amount of commuter traffic on roads	Increase in distance units travel for training or business.  Increase in movement of people and freight by road and air

### *Good Practice Case Studies*

The Abbey Wood development has incorporated several sustainable transport initiatives including a good network of walkways and cycleways, a new rail station and electric buggies to transport visitors around site.

The RAF Brize Norton/St Mawgan/Lyneham Basing Project team have worked in partnership with Local Authorities to develop a sustainable transport scheme to offset potential congestion.

## CONTACTS

### *Internal*

- Defence Estates Estate Strategy and Policy Team (Sustainability) (Built), Sutton Coldfield – Tel: 0121 311 2108.
- Defence Estates Environmental Support Team, Sustainability Advisory Team (EST SAT). Durrington, moving to Westdown Camp.
- MOD D SEF Pol (policy and ministerial level advice), St Giles Court, London.
- CESOs and Environmental Focal points for each TLB.
- Regional, Establishment, base or Unit Environmental focal points.
- Heads of Establishment for advice on the practical aspects of implementing travel plans and infrastructure.

### *External*

- Advisory Committee on Business and the Environment (for advice on green transport plans for business). Tel: 020 7890 6568.
- Local authorities (for strategic transport planning in the area and travel awareness campaigns).
- Transport 2000 (an independent organisation promoting sustainable transport) - [www.transport2000.org.uk](http://www.transport2000.org.uk). Tel: 020 7613 0743.
- Sustrans – for advice on cycle routes and opportunities – [www.sustrans.org.uk/webcode/home.asp](http://www.sustrans.org.uk/webcode/home.asp)

## INFORMATION AND REFERENCES

- Countryside Agency: 2001: *Great Ways to Go – Good Practice in Rural Transport* (CA62).
- Countryside Agency: 1995: *Roads in the Countryside* (CCP459).
- DETR: 1998: *A New Deal for Transport: Better for Everyone. The Government's White Paper on the Future of Transport*.

- Department for Transport: *Guidance on Travel Plans* (formerly Green Transport Plans) – **[www.local-transport.dft.gov.uk/travelplans/index.htm](http://www.local-transport.dft.gov.uk/travelplans/index.htm)**
- Department for Transport: *Transport 2010 – The Ten Year Plan*.
- *Framework for Sustainable Development on the Government Estate* – Travel chapter – **[www.sustainable-development.gov.uk/sdig/improving/contextb.htm](http://www.sustainable-development.gov.uk/sdig/improving/contextb.htm)**
- Institute of Environmental Management and Assessment: *Guidelines for Environmental Assessment of Road Traffic*.
- Institution of Highways and Transportation: 1999: *Guidelines for Planning for Public Transport in Developments*.
- Institution of Highways and Transportation: 1994: *Guidelines on Traffic Impact Assessment*.
- MOD JSP 418: *Environment Manual* (Chapter 5.0C).
- MOD D SEF Pol: 2003: *Sustainable Development Travel Strategy*.
- ODPM: 1994: Planning Policy Guidance Note 13: *Transport*.
- Transport 2000: 1997: *Changing Journeys to Work: An Employers Guide to Green Commuter Plans*.
- Transport 2000: 1995: *Alternatives to Traffic Growth: The Role of Public Transport and the Future of Freight*.

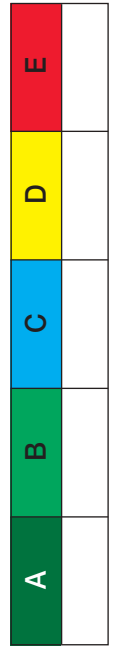
## CHECKLIST FOR THEME B: TRAVEL AND TRANSPORT

Overall objective: *Minimise amounts of travelling required, particularly via roads and private cars.*

POTENTIAL ISSUES	IMPACT				COMMENTS ON IMPACT	ACTION REQUIRED
	n/a	+ve	no	-ve		
Change in fuel efficiency and emission levels from vehicles						
Change in volume of commuting or travelling to clients and facilities						
Change in amount of vehicle use in training exercises						
Change in freight distance covered if engaging with different suppliers or procuring/disposing of different quantities						
Change in transport mode for commuting or travelling to clients or facilities						
Change in levels of congestion on local roads or at access points						
Other travel and transport issues						

STAKEHOLDERS CONSULTED AND REFERENCES USED

SUSTAINABILITY SCORE FOR THIS THEME



PRIORITY ACTIONS AND RESOURCES REQUIRED



## THEME C: ENERGY CONSUMPTION

### *Sustainability Objectives*

- To improve energy efficiency;
- To promote development and use of renewable energy;
- To ensure the prolonged availability of finite fossil fuels;
- To explore secure, diverse supplies of energy at competitive prices and generated in environmentally acceptable ways.

### WHY THIS THEME IS IMPORTANT TO MOD

- C1. Energy consumption is an important topic for MOD due to a combination of legislative requirements and characteristics of the Department and estate.
- C2. Concern has grown over the depletion of finite fossil fuel reserves and the impacts of their combustion, particularly that of global climate change. Efforts to improve energy efficiency will help reduce the demand for energy, conserve fossil fuel reserves and reduce levels of atmospheric pollution.
- C3. The Government is keen to promote sources of renewable energy. Renewable sources are those that are naturally, continuously and sustainably available in our environment such as wind, hydroelectric, wave, solar, biofuel and geothermal energy. Exploiting the capabilities of renewable resources will play a crucial role in enabling the UK to meet targets of reducing greenhouse gas emissions. Nuclear power does not produce greenhouse gases, but presents a long-term radiation legacy. Inability to generate our own energy sustainably will lead to UK becoming a net energy importer and becoming vulnerable to price fluctuations and political instability.
- C4. As a Government department, the MOD must comply with UK legislation and policy that support energy efficiency objectives. The Government launched its new Energy White Paper in February 2003, setting out long term strategies and goals for UK energy consumption and generation. A primary target is to increase the proportion or consumption of energy from renewable sources to 10% by 2010 and 20% by 2020, which will assist in the drive to reduce Carbon Dioxide emissions by 60% by 2050.
- C5. The Government introduced the Climate Change Levy (CCL) in the 1999 Budget. CCL is a tax on use of energy in industry, commerce and the public sector, which provides a financial incentive to minimise energy consumption. Conversely, additional support is provided for energy efficiency schemes and renewable energy procurement.
- C6. As a Government Department, MOD is expected to comply with Government policy targets for energy, as stated in the *Framework for Sustainable Development on the Government Estate* (2002). Targets for energy should be launched by the end of 2003 and are likely to reflect commitments to:
- Reduce overall energy use;
  - Increase the proportion of energy from renewable sources, possibly to 10% by 2010;
  - Increase the use of combined heat and power technology, to up to 20% of energy generated.
- Sustainability Appraisal (SA) presents an opportunity to build such commitments and targets into a new project or proposal from an early stage.

## MOD ACTIVITIES AND IMPACTS

- C7. The MOD's built estate is considerable and includes office buildings, sports and recreation facilities, accommodation, messes, workshops, motor transport facilities, hangars, stores and warehouses. Much of this requires energy for heating, lighting, cooking and operating equipment, and it is estimated that the annual total non-operational energy cost to the MOD world-wide is £162.8 million. This includes £12.8 million in CCL taxation. As MOD is such a big energy consumer, we should explore ways to improve efficiency.
- C8. MOD policy is that consumption of energy should be managed as efficiently as possible, consistent with operational effectiveness. Particular importance is attached to the economic benefits of reducing non-operational running costs and emissions by reducing energy consumption. Previous energy saving initiatives have included the Navy target of 15% savings in gross fuel by March 2001 and Army 10% by 2000. MOD has already achieved an energy efficiency target of 19.8% savings in gross fuels from the 1990/1991 baseline.
- C9. The MOD has a large rural estate, parts of which may provide suitable sites for establishing renewable energy facilities. Small, isolated establishments may potentially be powered by small wind generators, hydropower, solar power or biomass generators. Micro-generation of energy e.g. photovoltaic cells, solar water heating and Combined Heat and Power (CHP) can be incorporated into the built estate.
- C10. Departmental restructuring exercises may have energy implications. If there is a significant increase in personnel or operations on a site, it is likely that there will be a significant increase in energy consumption. However, there may be efficiencies in combining tri-service facilities onto one site as there are both financial and environmental economies of scale in fuelling one larger facility rather than small, discrete sites.
- C11. New build or refurbishment projects offer the potential to incorporate energy efficiency measures, either by design from the start or by gradually replacing old systems with new, efficient technology. The revised Building Regulations cover energy efficiency in some detail. Project teams should be receptive to the short-, medium- and long-term savings that offset initial expenditure on energy efficient technology or renewable energy initiatives. The focus should be shifted from initial investment costs to the through-life energy costs and impacts of buildings, materials and equipment. Local Energy Managers must be consulted when exploring alterations to energy supply and technology.

## MITIGATION OR ENHANCEMENT OPPORTUNITIES

- C12. The following suggestions can help offset some of the potential negative impacts that a Sustainability Appraisal may identify, and provide ideas to enhance a proposal.
- Undertake further assessments to evaluate current and projected energy use if there are likely to be significant changes.
  - Educate the project team and end-users about energy consumption and procurement issues, and promote behavioural changes and mitigation techniques to minimise negative impacts.
  - Incorporate designs that use best available techniques to minimise energy consumption and improve energy efficiency. Short-term payback measures include replacing light bulbs with energy saving equivalents. Medium-term payback measures include installing more efficient boilers (e.g. condensing boilers), adding extra insulation. Long-term measures include designing energy efficient technology into new buildings (e.g. insulation, movement sensitive lighting, solar panels, natural or mechanical ventilation rather than air conditioning).

- Explore opportunities for Combined Heat and Power (CHP) generation. Generation of electricity produces large amounts of heat, much of which is dissipated or lost through cooling towers. CHP facilities re-circulate this heat into nearby buildings, maximising the energy released from the original fuel and reducing the need to combust additional fuel for heating. CHP systems are often fuelled by waste incineration and renewable bio-fuels, not just fossil fuels.
- Consider the through-life energy requirements of buildings, materials and equipment rather than just the short-term implications. Use Building Energy Management Systems (BEMS) or Kitchen Energy Management Systems (KEMS) to deliver through-life savings.
- Explore opportunities to acquire electricity generated from renewable resources rather than fossil fuels (e.g. wind, wave, geothermal, solar, biomass energy).
- Explore opportunities to generate renewable electricity on MOD land, where it can be achieved in an operationally and environmentally sensitive way.
- Explore technologies that avoid the need for energy to be used, e.g. building orientation and large windows to maximise light levels, or 'sun-pipes' to beam natural light into basements or interiors.
- Procure white goods that are rated 'A' under DEFRA's Energy Labelling Scheme.

### ILLUSTRATIVE EXAMPLES OF SCORING IN THIS THEME

A	B	C	D	E
Procurement of renewable energy.  Use of CHP technology, or renewable electricity generators on the estate	Inclusion of natural or mechanical ventilation systems and energy saving devices in buildings	Localised, short-term changes in operational or non-operational energy consumption	Increase in personnel using or residing in a facility	Large, long-term increase in operational or non-operational energy consumption (e.g. significant expansion of naval fleet)

#### *Good Practice Case Studies*

RM Norton Manor – new Single Service Living Accommodation incorporated extensive solar panelling to heat water.

The Works Services Building at RM Condor, Arbroath is a small but important trial project for a variety of sustainable technologies, including:

- Innovative modular solar collectors;
- Pre-packaged engineering systems;
- Use of natural light in corridor and interior space;
- Cavity wall insulation.

The considered evaluation of the energy and financial savings for this project will assist in determining their wider application across the defence estate.

## CONTACTS

### **Internal**

- Defence Estates Sustainability Policy and Strategy (Built), Sutton Coldfield – Tel: 0121 311 2018.
- Defence Estates Environmental Support Team, Sustainability Advisory Team (EST SAT). Durrington, moving to Westdown Camp.
- MOD D SEF Pol (policy and ministerial level advice), St Giles Court, London.
- CESOs and Environmental Focal points for each TLB.
- Defence Utilities Policy and Review Group (DUPARG, formerly DUWG) representatives.
- TLB Utility Management branches, e.g. Army Utilities Management Board, PTC Utilities Management, CESO (RN).
- Regional, Establishment, base or Unit Environmental focal points.

### **External**

- Action Energy – energy advice for businesses and the public sector – [www.actionenergy.org.uk/actionenergy/default.htm](http://www.actionenergy.org.uk/actionenergy/default.htm)

## INFORMATION AND REFERENCES

- DEFRA sustainable energy information resource – [www.defra.gov.uk/environment/energy/index.htm](http://www.defra.gov.uk/environment/energy/index.htm)
- DEFRA UK Energy Strategy – [www.defra.gov.uk/environment/energy/review/index.htm](http://www.defra.gov.uk/environment/energy/review/index.htm)
- DTI renewable energy information resource – [www.dti.gov.uk/renewable](http://www.dti.gov.uk/renewable)
- DTI: 3003: *Our Energy Future – creating a low carbon economy* (Energy White Paper) – [www.dti.gov.uk/energy/whitepaper/index.shtml](http://www.dti.gov.uk/energy/whitepaper/index.shtml)
- *Framework for Sustainable Development on the Government Estate* – Energy chapter – [www.sustainable-development.gov.uk/sdig/improving/contexte.htm](http://www.sustainable-development.gov.uk/sdig/improving/contexte.htm)
- MOD JSP 418: *Environment Manual* (Chapter 6.0).
- ODPM: 1993: Policy Planning Guidance Note 22: *Renewable Energy*.
- Royal Commission on Environmental Pollution: 2000: *Energy: The Changing Climate*.

### CHECKLIST FOR THEME C: ENERGY CONSUMPTION

Overall objective: *Minimise total energy consumption and support the use of renewable energy rather than fossil fuel sources.*

POTENTIAL ISSUES	IMPACT				COMMENTS ON IMPACT	ACTION REQUIRED
	n/a	+ve	no	-ve		
Change in number of energy consuming personnel on site						
Change in number of energy consuming buildings or processes on site						
Change in amount of energy saving technology installed in facilities						
Change in balance of renewable/non-renewable energy used						
Change in opportunity to explore generation of renewable energy						
Change in opportunity to generate CHP						
Change in through-life energy use of equipment						
Other energy issues						

**STAKEHOLDERS CONSULTED AND REFERENCES USED**

SUSTAINABILITY SCORE FOR THIS THEME				
A	B	C	D	E

**PRIORITY ACTIONS AND RESOURCES REQUIRED**



## THEME D: NOISE AND VIBRATION

### *Sustainability Objectives*

- To minimise disturbance and annoyance to people and wildlife and stress to historic buildings caused by uncontrolled noise and vibration.

### WHY THIS THEME IS IMPORTANT TO MOD

- D1. Noise and vibration are important issues for MOD due to a combination of legislative requirements and unique activities of the Department. Both can cause disturbance to people and wildlife and should be minimised during projects, activities and operations.
- D2. Disturbance has been defined as *'a feeling of displeasure associated with any agent or condition, known or believed by an individual or group to adversely affect them'* (World Health Organisation, 2000). Several factors need to be accounted for when assessing potential for disturbance, including:
- Timing of disturbance and context of background noise and vibration against which MOD activity occurs;
  - Duration of disturbance – sudden pulses or prolonged activity;
  - The sensitivity and perception of those receiving disturbance.
- D3. Excessive noise can cause problems such as irritation, distress, interrupted rest and sleep, disrupted work and concentration, and excessive noise levels can damage hearing. Excessive vibration can affect people in a similar way to noise, causing physical and emotional stress. Vibrations from, e.g. movement of heavy vehicles, can put strain on buildings and structures.
- D4. As a Government department, MOD must comply with UK legislation and policy to reduce such potential nuisances. Noise and other nuisances are covered by Part 3 of the Environmental Protection Act 1990. The Noise and Statutory Nuisance Act 1993 excludes military activities, but the Noise Act 1996 places restrictions on night-time noise. Planning approvals may also be conditional upon adequate noise mitigation and management. The Health and Safety at Work Act 1974 and Noise at Work Regulations 1989 also govern noise workplace levels.
- D5. Sustainability Appraisal (SA) presents an opportunity to build such commitments and targets into a new project or proposal from an early stage.

### MOD ACTIVITIES AND IMPACTS

- D6. MOD undertakes many activities that may cause disturbance through noise or vibration. Noise and vibration are often linked with military training, e.g. firing and low flying (helicopters and fast jets). Firing and flying can emit sudden, loud, pulse noises that may frighten people and animals and be intrusive in rural areas. Shock waves from firing large artillery pieces can have a vibratory effect. The trial and testing of weapons and equipment can also be noisy.
- D7. MOD decommissioning, refurbishment, construction and engineering projects can generate significant levels of noise and vibration, particularly during demolition activities, piling and use of heavy vehicles and plant. Noise and vibration is usually focussed near the construction site, but impacts can be felt by wider communities if roads are used to transport machinery and materials.
- D8. Noise and vibration from road transport is not solely restricted to construction movements. MOD uses road transport convey vehicles to training exercises, move supplies of food, fuel, equipment and consumables, and remove waste.

- D9. New licensed estate activities e.g. field sports (shooting), non-military flying, commercial and recreational pursuits should be exposed to noise assessment or Establishment noise management procedures. Other sources of noise and disturbance can include the social activities of large groups of personnel, mostly young men, in pubs and facilities in the local community. Noise from MOD activities can also affect the enjoyment of countryside by visitors to the estate, e.g. sites in National Parks.
- D10. Noise and vibration can also affect wildlife on and around the defence estate, raising general stress levels in individuals and populations, particularly during breeding and feeding. The Navy has undertaken environmental assessments on the effects that low-frequency active sonar can have on marine mammals and will reconfigure operating procedures to minimise risk of disturbance.

### MITIGATION OR ENHANCEMENT OPPORTUNITIES

- D11. The following suggestions can help offset some of the potential negative impacts that SA may identify, and provide ideas to enhance a proposal.
- Undertake noise/vibration assessments and monitoring if significant disturbance is likely. Use tools such as GNAT (Gunfire Noise Analysis Tool) and examine weather patterns to understand sound propagation.
  - Educate the project team and end-users about the issues surrounding noise and vibration, and promote behavioural changes and mitigation techniques that can alleviate impacts.
  - Avoid heavy vehicle movements (e.g. military convoys and vehicle transporters, delivery trucks or heavy construction plant) near communities or on narrow roads flanked by buildings, especially during unsociable hours, to avoid disturbance from noise and vibration.
  - Consider screening noisy activities with noise bunds.
  - Publicise or liaise with local communities in advance of exercises involving firing, low flying and night activities.

### ILLUSTRATIVE EXAMPLES OF SCORING IN THIS THEME

A	B	C	D	E
Removal of disturbing activities	Liaison schemes in place with local communities.  Use of noise screening	Localised and occasional changes in vehicle use or firing	Short term disturbing activities such as construction	Long term increases in vehicle use, firing or flying, or heavy periods of construction

### ***Good Practice Case Studies***

The Army has adopted GNAT (Gunfire Noise Analysis Tool) for all its major training areas. The GNAT software package generates predicted noise patterns based upon weapon type, location and direction, weather conditions and topography. This allows activities to be positioned at appropriate parts of the training area in relation to sensitive receptors.

The RAF has several initiatives in place to manage the noise impacts of low flying, including:

- JSP 318 (Military Flying Regulations) and 318A (Military Air Traffic Services);
- UK Military Low flying Handbook;
- Regional Community Relations Officers in the most affected areas;
- Systems for handling complaints and investigating compensation.

A five-year construction programme proposed at Northwood had potential to disturb watchkeepers trying to sleep during the day. One of the mitigation measures, proposed by bidders to minimise construction noise, was to bring prefabricated structures onto site.

## **CONTACTS**

### ***Internal***

- Defence Estates Environmental Support Team, Sustainability Advisory Team (EST SAT), Durrington, moving to Westdown Camp.
- MOD D SEF Pol (policy and ministerial level advice), St Giles Court, London.
- CESOs and Environmental Focal points for each TLB.
- Regional, Establishment, base or Unit Environmental focal points.

### ***External***

- National Society for Clean Air and Environmental Protection – [www.nasca.org.uk/noise.htm](http://www.nasca.org.uk/noise.htm) Tel: 01273 878770.

## **INFORMATION AND REFERENCES**

- DEFRA noise information resource – [www.defra.gov.uk/environment/noise/index.htm](http://www.defra.gov.uk/environment/noise/index.htm)
- MOD JSP 375: *Health and Safety Handbook*.
- MOD JSP 418: *Environment Manual* (Chapter 7.7).
- ODPM: 1994: Planning Policy Guidance Note 24: *Planning and Noise*.

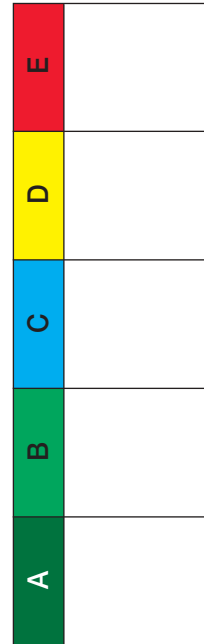
## CHECKLIST FOR THEME D: NOISE AND VIBRATION

Overall objective: *Minimise disturbance to people and wildlife from noise and vibration.*

POTENTIAL ISSUES	IMPACT				COMMENTS ON IMPACT	ACTION REQUIRED
	n/a	+ve	no	-ve		
Change in intensity, duration or timing of training activities – effects on people and wildlife						
Change in type of vehicle or weapons used						
Change in volume and timing of heavy vehicles on roads, particularly through communities or near historic buildings						
Change in noise and vibration from demolition and construction activities						
Changes in recreational use of the estate, e.g. activities such as driving or shooting						
Other noise and vibration issues						

STAKEHOLDERS CONSULTED AND REFERENCES USED

SUSTAINABILITY SCORE FOR THIS THEME



PRIORITY ACTIONS AND RESOURCES REQUIRED

## THEME E: WATER AND DRAINAGE

### *Sustainability Objectives*

- To safeguard fresh water resources and water quality at a time when pressures from climate change and demand are likely to increase;
- To safeguard the health and productivity of inland waters and seas;
- To maintain and enhance marine and coastal water quality;
- To reduce the threat of persistent or diffuse pollutants to the environment and human health;
- To prevent injury, distress or property damage caused by flooding;
- To ensure our waters are clean enough to sustain healthy use by wildlife and communities.

### WHY THIS THEME IS IMPORTANT TO MOD

- E1. Water and drainage are important topics for MOD due to a combination of legislative requirements and characteristics of the Department and estate.
- E2. Although water is considered to be a renewable resource, it should be used sustainably. Water is important for the survival of flora and fauna and for human health, industry and transport. As the world's population continues to expand, there will be a consequent rise in demand for water. Climate change is also putting stress on the availability of water through desertification, an increasing proportion of rain falling in extreme events, and saline inundation of freshwater reserves due to rising seas.
- E3. The Government's main objectives related to water and drainage include:
- **Water resources:** Ensure adequate water resources are available to meet consumers' needs whilst sustaining aquatic ecosystems and natural hydrological processes. Encourage efficient use of water by controlling water supply, consumption and leakage and minimising over-abstraction.
  - **Fresh water:** Sustain and improve the water quality and aquatic environment by controlling surface and ground water quality, pollution, waste water treatment and recreational use of water.
  - **Marine water:** Minimise human inputs into the sea (directly or from inland via rivers) to control estuarine and marine water quality and pollution and protect marine biodiversity.
- E4. As a Government department, the MOD must comply with UK legislation and policy that support objectives for water quality, consumption and sustainable hydrological systems. Integrated Pollution Control objectives under the Environmental Protection Act 1990 cover contamination of water, objectives that are reinforced by the Pollution Prevention and Control Regulations 2000.
- E5. The Environment Act 1995 gave the Environment Agency (and SEPA) power to regulate water quality. The Act also modified the Water Resources Act 1991, controlling contamination. MOD has a MoU with the Environment Agency on management of water pollution, discharges and abstractions.
- E6. The EC Water Framework Directive 2000 promotes integrated river basin management, to improve surface water chemistry, ecology and hydrology. The Water Environment and Water Services (Scotland) Act 2003 transposes the Directive into Scottish legislation. The EC Bathing Water Directive (the Bathing Waters (Classification) Regulations 1991 in UK) sets standards for coastal water quality.

E7. Government policy targets for water consumption, stated in the *Framework for Sustainable Development on the Government Estate* (2002) include, to:

- Reduce water use to 7.7m<sup>3</sup> per person per year by 2004 in offices;
- Reduce use to 7m<sup>3</sup> per person per year by 2006 for new offices;
- Identify water saving opportunities.

The Government's Watermark project is designed to improve the monitoring of water consumption across the government estate, primarily on the built estate but increasingly applying to non-built sectors.

E8. Sustainability Appraisal (SA) presents an opportunity to build such commitments and targets into a new project or proposal from an early stage. Water is an expensive utility that the MOD must purchase. Minimising consumption and saving water therefore produces financial as well as environmental benefits. The Watermark project has revealed that every £1 spent on water-saving measures can yield up to £10 in savings. Both delivery and removal of water must be paid for, and if water becomes polluted during use, it often has to be treated as special waste.

### **MOD ACTIVITIES AND IMPACTS**

E9. MOD undertakes many activities that can affect water use, quality and drainage. Daily activities such as cleaning (people, clothing, linen, buildings, equipment), food preparation, leisure amenities, livestock and horses all require fresh or treated water and produce waste water. Changes in numbers of people on site will change the amount of water used and discharged.

E10. Many MOD activities have potential to contaminate watercourses, either through direct discharges, from surface run-off and groundwater percolation, or from deposition of airborne contaminants. Water pollution can arise from:

- sewage treatment effluent;
- 'industrial' processes e.g. research and testing;
- liquid catering waste;
- overboard disposal or jettisons;
- sedimentation from dredging, vehicles fording watercourses, surface erosion from bare tank tracks and impact craters, run-off from construction sites, waste water from vehicle or aircraft washdowns (the latter of which may contain contaminants such as cadmium);
- leaks and run-off from fuel or chemical stores and re-fuelling points;
- heavy metals in range butts and impact areas leaching into groundwater;
- Run off of fertilisers or pesticides from agricultural land on the estate;
- firing of missiles, artillery and other rounds into the sea.

E11. Design and construction of buildings and infrastructure should be sensitive to local hydrological regimes and drainage patterns. Replacing vegetated areas with solid surfaces accelerates surface run-off causing flooding downstream, desiccation of underlying soil and substrate, along with inundation and vegetation changes on the margins of the solid surfaces.

E12. Point sources of pollution such as discharge pipes are now well regulated. Today's biggest water pollution problems stem from the widespread run off of contaminated flow from roads and hard surfaced areas and agricultural land. Development, refurbishment and activities of agricultural tenants should account for position and flow of local surface and sub-surface watercourses, and the need to 'trap' contaminants that may be present in flows.

## MITIGATION OR ENHANCEMENT OPPORTUNITIES

- E13. The following suggestions can help offset some of the potential negative impacts that SA may identify, and provide ideas to enhance a proposal.
- Undertake further assessment to evaluate changes in water use and disposal, or to assess impacts on hydrological systems.
  - Educate the project team and end-users about the issues surrounding water and drainage, and promote behavioural changes and mitigation to alleviate impacts.
  - Work with Project Aquatrine to optimise water supply and infrastructure integrity.
  - Consult with the Environment Agency, SEPA, Local Authorities and water suppliers about potential changes in demand, abstraction, discharge or wastewater treatment, and proposals to build near floodplains.
  - Explore opportunities for integration of water saving devices such as dual flush toilets, push button showers/taps or aerated shower heads. Install flow meters and other devices to monitor consumption cycles and identify where savings can be made.
  - Minimise consumption of treated water by integrating rainwater capture technology and reusing 'grey' water for toilet flushing or 'industrial' processes.
  - Explore alternative options for sewage or effluent treatment such as slow percolation through reed-beds rather than enlarging sewage works. Monitor the water quality around any discharge points.
  - Integrate Sustainable Urban Drainage Systems (SUDS) techniques into developments. SUDS helps promote 'natural' approaches to balance the need to manage floods and surface water drainage, and conserve natural resources.
  - Use bunds, booms, sediment traps, oil-water separators or holding tanks to prevent contaminated runoff from waste, fuel or chemical storage and handling areas reaching watercourses.

## ILLUSTRATIVE EXAMPLES OF SCORING IN THIS THEME

A	B	C	D	E
Large reduction in people and activities that use water and produce contaminated effluent	Installation of water saving devices, grey-water recycling, rainwater capture or bunds to reduce flow of contaminants	Temporary change in risk or pollution during training or construction activities.  Localised fluctuation in water consumption	Increase in people and activities to consume water.  Increase in hardened surfaces.  Discharges into surface or ground water	Significant increases in surface or groundwater contamination.  Permanent development and hardening of surfaces in flood-risk areas

### *Good Practice Case Studies*

The Navy has undertaken an investment appraisal into options for replacing existing showerheads with water-saving heads on Royal Marine establishments. One product, trialled by DERA, would use 63% less water to meet existing specifications for performance and durability, producing a 10 year saving of £1,411,000 in water, sewage, heating and maintenance charges if all existing heads were replaced. The study certainly recommends installing the product in new developments, where savings would be even greater.

## CONTACTS

### *Internal*

- Defence Estates Sustainability Policy and Strategy (Built), Sutton Coldfield – Tel: 0121 311 2018.
- Defence Estates Environmental Support Team, Sustainability Advisory Team (EST SAT), Durrington, moving to Westdown Camp.
- Defence Estates Specialist Services Unit (for water contamination issues), Sutton Coldfield – Tel: 0121 311 2007.
- MOD D SEF Pol (policy and ministerial level advice), St Giles Court, London.
- CESOs and Environmental Focal points for each TLB.
- Defence Utilities Policy and Review Group representatives, TLB utility managers.
- Regional, Establishment, base or Unit Environmental focal points.
- Project Aquatrine Communications Manager, Sutton Coldfield – Tel: 0121 311 2297.

### *External*

- Environment Agency – **[www.environment-agency.gov.uk](http://www.environment-agency.gov.uk)** – Tel: 08459 333111.
- Scottish Environment Protection Agency – **[www.sepa.org.uk](http://www.sepa.org.uk)** – Tel: 01786 457700.
- Centre for Ecology and Hydrology – **[www.nwl.ac.uk](http://www.nwl.ac.uk)** – Tel: 01491 838800.
- Water UK – forum representing water industry, government and stakeholders – **[www.water.org.uk](http://www.water.org.uk)**
- Relevant Local Authority and water company.

## INFORMATION AND REFERENCES

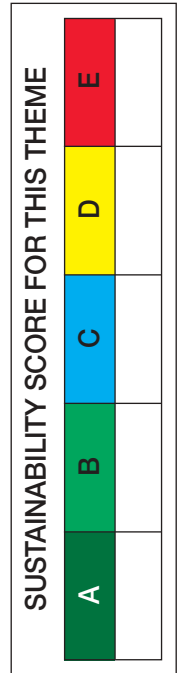
- DEFRA Pollution Prevention and Control information resource – **[www.defra.gov.uk/environment/ppc/index.htm](http://www.defra.gov.uk/environment/ppc/index.htm)**
- DEFRA Water information resource – **[www.defra.gov.uk/environment/water/index.htm](http://www.defra.gov.uk/environment/water/index.htm)**
- CIRIA Sustainable Urban Drainage Systems (SUDS) – **[www.ciria.org.uk/suds](http://www.ciria.org.uk/suds)**
- Defence Estates: 2001: *In Trust and On Trust* (Strategy for the Defence Estate).
- Environment Agency/SEPA: Pollution Prevention Guidelines.
- Environment Agency: *Environmental Good Practice Guide: Urban Redevelopment for Industrial and Commercial Uses – Site Appraisal and Layout, Surface Water Disposal and Landscapes for Biodiversity*.
- Environment Agency: *Policy and Practice for the Protection of Floodplains*.
- Environment Agency: *Conserving Water in Buildings*.
- Framework for Sustainable Development on the Government Estate – Water chapter – **[www.sustainable-development.gov.uk/sdig/improving/contextc.htm](http://www.sustainable-development.gov.uk/sdig/improving/contextc.htm)**
- MOD JSP 418: *Environment Manual* (Chapter 7).
- ODPM: 1994: Planning Policy Guidance Note 23: *Planning and Pollution Control*.
- ODPM: 2001: Planning Policy Guidance Note 25: *Development and Flood Risk*.

### CHECKLIST FOR THEME E: WATER AND DRAINAGE

Overall objective: *Reduce total water consumption and minimise risks of water pollution and flooding.*

POTENTIAL ISSUES	IMPACT				COMMENTS ON IMPACT	ACTION REQUIRED
	n/a	+ve	no	-ve		
Change in area under hard surfaces, especially near floodplains						
Change in sedimentation of watercourses e.g. from driving, dredging, soil erosion or construction run-off						
Change in number of people and processes consuming/abstracting water						
Change in number of people and processes that discharge waste water						
Change in opportunity to install water-saving measures						
Change in number or type of potentially polluting activities or processes on site						
Other noise and vibration issues						

**STAKEHOLDERS CONSULTED AND REFERENCES USED**



**PRIORITY ACTIONS AND RESOURCES REQUIRED**



## THEME F: WASTE

### *Sustainability Objectives*

- To reduce the spread of persistent or diffuse pollutants and improve the management of waste;
- To reduce waste by careful choice of raw materials and promoting reuse, recovery and recycling;
- To reduce the production of hazardous waste and ensure that it is treated responsibly and safely.

### WHY THIS THEME IS IMPORTANT TO MOD

- F1. Waste management is an important topic for MOD due to a combination of legislative requirements and unique characteristics of the Department and its activities. Waste management is one of the UK's major environmental and resource challenges, and encompasses:
- energy and resources to create the materials that become waste;
  - transport impacts when moving waste;
  - gaseous emissions from incineration or decomposition;
  - extent of land required for landfill or processing facilities;
  - contamination of land and water and health risks from hazardous waste.
- F2. The UK produces over 100 million tonnes of waste every year from households, commerce and industry and this total is increasing significantly. Most of this waste is transported by road and landfilled or incinerated, both of which produce greenhouse gases. Landfill space is becoming increasingly scarce in some parts of England and Wales, particularly in the Southeast.
- F3. Sustainable waste management means procuring and using resources efficiently to reduce the amount of waste produced. Where waste is generated, the principles of the UK Waste Strategy should apply. Where possible, waste should be turned into a resource through reuse, recycling, composting and energy recovery, with disposal as a last resort. Many of these depend on attitude and behaviour change and often rely on the presence of adequate collection, reprocessing facilities and markets. Partnerships between local authorities and the public sector, private industry and environmental organisations are facilitating sustainable waste management.

*Waste management hierarchy from Waste Strategy 2000 (DEFRA).*

**REDUCE** Reduce waste through design, improving processes and, working with suppliers on careful choice of packaging, accurately estimating quantities required. Reduce other organisations' waste disposal by procuring reusable, recovered or recycled materials.

**REUSE** Reuse items rather than disposing after initial use, e.g. refillable bottles or print cartridges. Refurbish and market 'old' equipment e.g. vehicles, electrical equipment. Reuse postpones and cuts eventual disposal costs and reduces the need to consume raw materials for fresh products.

**RECYCLE** Recycling is the processing and transformation of 'waste' materials into another useful product. Recycling reduces the demand for raw materials and postpones and reduces disposal costs of the original item.

**RECOVER** Recover any useful energy from 'waste' material rather than losing it through disposal. Examples include composting organic waste (including some paper and card), collecting methane gas from landfill sites and incinerating waste to produce energy to generate electricity or heat buildings.

- F4. The Government also wishes to promote the management of waste in line with the 'proximity principle', which states that waste should be disposed of as near to its source as possible. This is to ensure that waste problems are not simply exported to other regions or countries and that the emissions and impacts of waste transportation are minimised.
- F5. As a Government department, the MOD must comply with UK legislation and policy that supports waste management objectives. The Environment Act 1995 updates waste regulations that were originally launched under the Environmental Protection Act 1990.
- F6. The UK launched the Landfill Tax in 1996, an initiative that was strengthened by the EC Landfill Directive 1999. The Landfill tax is a levy per tonne of waste sent to landfill. Since 1999, the levy has been £10 per tonne of active waste, rising £1 per year until it is reviewed in 2004. The revenue is invested in organisations with environmental objectives and schemes.
- F7. The Waste Minimisation Act 1998 sets out objectives for reducing waste quantities, and the Controlled Waste Regulations 1992 prescribe special treatment and disposal procedures for e.g. household waste, clinical waste, construction waste, asbestos, scrap metal and mineral oils and grease.
- F8. The Special Waste Regulations 1996 govern the handling, treatment and disposal of substances that may be toxic, flammable, corrosive, carcinogenic or otherwise hazardous. The Radioactive Substances Act 1993 makes similar provisions for the safe handling and disposal of radioactive waste.
- F9. Further EC Directives that support the safe management of waste include:
- Waste Electrical and Electronic Equipment (WEEE) Directive 2002;
  - Packaging Waste Directive (interpreted in UK by the Packaging Waste Regulations 1997);
  - End-of-life Vehicles Directive 2000;
  - Animal By-Products Regulation 2003 (food and catering waste).
- F10. National waste strategies for England and Wales, and Scotland, give strategic policies and projections for waste management in UK. Government policy targets for waste, in the *Framework for Sustainable Development on the Government Estate* (2002), will be launched in summer 2003 and will include:
- Recovering a minimum of 40% of office waste – at least 25% of that through composting or recycling by March 2006;
  - Having recycling and minimisation schemes in all offices with +50 staff;
  - Promoting purchase of recycled paper and other products;
  - Reducing volume and weight of waste.
- F11. Sustainability Appraisal (SA) presents an opportunity to build such commitments and targets into a new project or proposal from an early stage.

## **MOD ACTIVITIES AND IMPACTS**

- F12. MOD is a large organisation that produces large amounts of waste, including:
- Household waste from accommodation and quarters;
  - Industrial waste from research and testing activities;
  - Construction, refurbishment and demolition waste;
  - Office waste e.g. paper, print cartridges and toners;

- Catering and food waste;
- Clinical waste;
- Radioactive waste from medical activities, weapons, submarines;
- Waste water from sewerage, industrial processes and catering.

F13. Any proposal that involves a change in numbers of people on a site is likely to generate a change in the amount of waste produced and disposed of. Any proposal that involves a change in processes and activities on a site is likely to involve a change in materials used and the type of waste produced, which may require a different hazard or control classification and disposal method.

F14. Maintenance of vehicles and equipment often produces waste fuels, oils, lubricants and other chemicals, as well as contaminated rags and containers. Procurement of new equipment (vehicles, weapons, clothing, IT, machinery etc) usually implies decommissioning and disposal of old items. Disposal of old weapons, prototypes, missiles and spent rounds entails handling and treatment of toxic, explosive and flammable materials. Procurement processes should consider disposal of new equipment at the end of its life.

### MITIGATION OR ENHANCEMENT OPPORTUNITIES

F15. The following suggestions can help offset some of the potential negative impacts that a Sustainability Appraisal may identify, and provide ideas to enhance a proposal.

- Undertake further assessments to evaluate current and projected waste production and disposal if it is likely to be a significant issue.
- Educate the project team and end-users about the issues surrounding waste production and disposal, and promote behavioural changes and mitigation techniques that can alleviate impacts.
- Dispose of waste as near to its source as possible to minimise unnecessary transport impacts and to keep impacts of the project local rather than widespread.
- Avoid or reduce waste by estimating quantities accurately and working with suppliers to choose products with minimal packaging and transportation.
- Try to re-use or recycle material commonly disposed of as waste. Work with local environmental organisations and small businesses to explore markets for e.g. reconditioned/refurbished IT and mechanical equipment or vehicles.

### ILLUSTRATIVE EXAMPLES OF SCORING IN THIS THEME

A	B	C	D	E
Working with suppliers to reduce excess packaging around products	Re-use or recycling of materials e.g. in construction and refurbishment, or office ware procurement	Localised or occasional changes in waste production at a site	Increase in the production of waste that cannot be reused or recycled	Significant long-term increase in waste that cannot be reused or recycled, e.g. through new equipment or a big increase in personnel

### *Good Practice Case Studies*

As part of its Environmental Management System, Leek and Upper Hulme Training Area has changed its practices and reduced the amount of waste sent to landfill. Significant waste and financial savings have been made, with no initial outlay required by MOD. By investigating local enterprises and instilling initiatives to collect, recycle or reuse paper, cardboard, metal cans, glass and plastic bottles, Leek Camp should save over £500 per year and prevent 100 wheelie-bins worth of waste per year going to landfill.

## **CONTACTS**

### ***Internal***

- Defence Estates Environmental Support Team, Sustainability Advisory Team (EST SAT), Durrington, moving to Westdown Camp.
- Defence Estates Sustainability Policy and Strategy (Built), Sutton Coldfield – Tel: 0121 311 2018.
- Defence Estates Specialist Services Unit, Sutton Coldfield – Tel: 0121 311 2007 – for hazardous waste and contaminated land issues. Nuclear and Maritime branch for co-ordinating Nirex/Drigg disposal of radioactive waste, Tel: 0121 311 3842.
- MOD Disposal Sales Agency (DSA) – Disposal of hazardous waste must be handled through the DSA. E-mail – **DSAOPS4@deso.mod.uk**
- MOD Waste Managers (for those units or establishments which have them).
- MOD D SEF Pol (policy and ministerial level advice), St Giles Court, London.
- CESOs and Environmental Focal points for each TLB.
- Regional, Establishment, base or Unit Environmental focal points.

### ***External***

- Environment Agency – **www.environment-agency.gov.uk** – General enquiries 08457 333111.
- Scottish Environment Protection Agency (SEPA) – **www.sepa.org.uk** – Waste Action Line 01786 457700.
- Envirowise – A Government programme providing practical environmental advice – **www.envirowise.gov.uk** – Helpline 0800 585794.
- Waste Watch – National charity promoting action on waste reduction, reuse and recycling, part funded by DEFRA – **www.wastewatch.org.uk**
- WRAP – seeking markets in recycled resources – **www.wrap.org.uk** – 0808 100 2040.
- Relevant Local Authority.

## **INFORMATION AND REFERENCES**

- DEFRA Pollution Prevention and Control information resource – **www.defra.gov.uk/environment/ppc.index.htm**
- DEFRA waste information resource – **www.defra.gov.uk/environment/waste/index.htm**
- Waste Online – information resource on waste topics – **www.wasteonline.org.uk**
- DEFRA: 2000: Waste Strategy for England and Wales – **www.defra.gov.uk/environment/waste/strategy/cm4693**
- *Framework for Sustainable Development on the Government Estate* – Waste chapter – **www.sustainable-development.gov.uk/sdig/improving/contextd.htm**

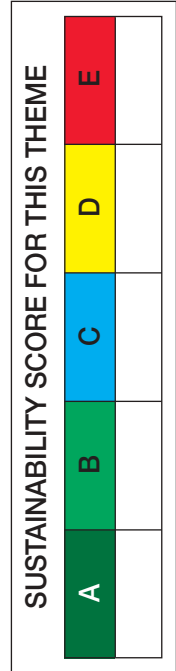
- MOD JSP 392: *Instructions for Radiological Protection*. (Radioactive waste guidance).
- MOD JSP 418: *Environment Manual* (Chapters 8.0 to 8.6).
- ODPM: 1997: Planning Policy Guidance Note 10: *Planning and Waste Management*.
- SEPA: 1999: *National Waste Strategy: Scotland* –  
**[http://www.sepa.org.uk/nws/guidance/nws/nws\\_1999.htm](http://www.sepa.org.uk/nws/guidance/nws/nws_1999.htm)**

**CHECKLIST FOR THEME F: WASTE**

Overall objective: *Reduce waste production and promote reuse, recycling and recovery.*

POTENTIAL ISSUES	IMPACT				COMMENTS ON IMPACT	ACTION REQUIRED
	n/a	+ve	no	-ve		
Change in amount of waste produced (by e.g. more people, different materials)						
Change in amount of special, controlled, hazardous or radioactive waste produced						
Change in waste quantities from demolition or construction activities						
Change in opportunity to procure recycled or re-used items						
Change in opportunity to send more waste for re-use or recycling						
Changes in waste produced through disposal of redundant equipment and materials						
Other waste issues						

**STAKEHOLDERS CONSULTED AND REFERENCES USED**



**PRIORITY ACTIONS AND RESOURCES REQUIRED**

## THEME G: LAND, BUILDINGS AND CONSTRUCTION MATERIALS

### *Sustainability Objectives*

- To reuse or refurbish existing land and structures before building new facilities;
- To concentrate new development in existing 'brownfield' or urban areas rather than 'greenfield' or rural sites;
- To ensure land is managed effectively and efficiently and to the highest practicable environmental standards;
- To maximise efficient use of construction materials and promote recycling or reuse of demolition waste;
- To design sustainability features into buildings from the earliest opportunity.

### WHY THIS THEME IS IMPORTANT TO MOD

- G1. Land use, building design and construction practices are important issues for MOD due to a combination of legislative requirements and unique characteristics of the Department and its estate.
- G2. On a small island such as the UK, land is a finite resource. Population increase, along with industrial and retail growth, has put pressure on land resources by increasing the demand for buildings, housing, transport and utility infrastructure, recreation facilities and land for agriculture. Such demand for land drives activities into more marginal areas and puts increasing pressure on green and open space. Notes E, H, I, J, K and L give more detail on specific impacts on green spaces (e.g. on watercourses, soils and wildlife).
- G3. As a Government department, MOD must comply with UK legislation and policy that support objectives for sustainable land use and construction. The Town and Country Planning Act 1990 (Scotland equivalent 1997) aims to control development and land use and give strategic direction to national, regional and local area planning. Government Planning Policy is disseminated through a series of regularly updated Planning Policy Guidance (PPG) notes. The Coastal Protection Act 1949 governs coastal engineering and development, supporting the Town and Country Planning Regulations which extend to low water mark.
- G4. The MOD's Strategy for the Defence Estate, *In Trust and On Trust* (2000) sets out detailed objectives for efficient management and use of the estate. Government is promoting use of previously developed 'brownfield' sites and re-using or converting existing buildings and infrastructure. This is to ease pressure on unspoilt 'greenfield' sites and encourage urban regeneration.
- G5. Construction and redevelopment have many environmental and sustainability implications. Demolition of facilities produces large quantities of waste, which is often landfilled. Quantities of waste should be minimised and materials should be recycled where possible, or disposed of near to their source.
- G6. The UK construction industry uses natural resources and consumes around six tonnes of material per person per year. Over 50% of this is for repair and maintenance of existing building stock. Quarrying of 250-300 million tonnes of material in the UK per year for aggregates, cement and bricks imposes significant environmental impacts. Materials e.g. timber and aggregate should be obtained from sustainable renewable or recycled sources, where possible.

- G7. Through life energy and maintenance requirements of buildings and materials should be addressed and minimised to promote long-term energy efficiency, minimal maintenance and replacement and ease of disposal or recycling at end of life. Other short-term impacts of construction include disturbance to local communities and wildlife through noise, heavy vehicle movements and dust. There are also social and economic aspects associated with where materials are purchased and how construction personnel are employed.
- G8. Government has recognised the need for a more sustainable UK construction policy. The Government's Construction Task Force launched its *Rethinking Construction* report and programme in 1998 to give direction and guidance to boost efficiency and quality in the industry (including the public sector).
- G9. Government policy targets for procurement and estate management in the *Framework for Sustainable Development on the Government Estate* (2002) will be launched by the end of 2003 and are likely to reflect commitments to:
- Integrate environmental factors into purchasing decisions (Sustainability Appraisal may be one mechanism of achieving this);
  - Seek timber from sustainable and legal sources and inform suppliers accordingly;
  - Increase the purchase of recycled products;
  - Give preference to energy efficient products;
  - Phase out CFC air conditioning systems in favour of natural cooling and avoid CFC and HFC products in new projects;
  - Reduce the percentage of empty residential properties.
- G10. It is a further Government target to apply the Building Research Establishment Environmental Assessment Methodology (BREEAM), or equivalent, to assess the environmental impacts of buildings. New buildings should reach 'excellent' standard and refurbishments should achieve 'very good' on the BREEAM scale. The Government Construction Clients Panel has also developed a toolkit to assess and manage the environmental performance of buildings and construction activities. Sustainability Appraisal (SA) presents an opportunity to build policy commitments and targets into the project or proposal from the earliest stages.

## **MOD ACTIVITIES AND IMPACTS**

- G11. The 240,000 hectare MOD estate (approximately 1% of the UK) is extremely diverse and has to accommodate a great variety of activities. The department has training licenses and leases to a further 1% of UK land. The forces need to be sympathetic in their treatment of such public and private land, as well as their own estate.
- G12. The Core Sites initiative stemmed from the Estate Strategy (2000) and classified MOD sites into categories indicating potential for intensification of development or disposal. The Core Sites database should inform all decisions for relocating activities and facilities. It is an Estate Strategy requirement that MOD landholdings are no larger than required for operational reasons, and a Treasury requirement that a percentage of disposals receipts are ploughed back into the defence budget. Therefore, opportunities are sought to dispose of surplus land. The change from Military to other use can have a variety of ecological, heritage and socio-economic issues and such sustainability factors should be identified and managed carefully in the disposal process.
- G13. Change in type and intensity of training exercises also constitutes a change of land use. In addition, modern vehicles and artillery are frequently more powerful than their predecessors and require greater manoeuvre areas and safety zones, so this should be considered in appraisals of equipment procurement. Land use also includes changes in estate management and maintenance activities, e.g. scrub clearance, forestry works, grazing regimes and the activities of agricultural tenants who may change their practices.

- G14. Land use changes can emerge under the MOD's Wider Markets Initiative, whereby MOD land and properties may be explored for commercial uses if it is operationally viable. If areas of MOD land were 'rented out' for e.g. filming or an off-road bike rally, there may be ecology, landscape or heritage impacts.
- G15. The department is a major construction client and commissions many large-scale rebuild and refurbishment projects such as SLAM, major engineering schemes, smaller projects and periodic refurbishment. Projected construction expenditure is forecast to reach £900 million over the forthcoming five years. Design and construction are the best phases to incorporate sustainability principles into a development, to ensure good long-term performance.
- G16. Development of coastal land can be sensitive because of the dynamic interface between terrestrial and marine processes. Jetties, sea defences or pipelines may all stimulate erosion or sedimentation further along the coast. Coastal development should also consider potential long-term (50 to 150 years) impacts of climate change and sea level rise. Development of land near floodplains should also consider potential flood peaks.

### **MITIGATION OR ENHANCEMENT OPPORTUNITIES**

- G17. The following suggestions can help offset some of the potential negative impacts that a Sustainability Appraisal may identify, and provide ideas to enhance a proposal.
- Undertake further assessments to establish the status of proposed sites and buildings and optimise efficiency of land use and sustainable building design. Sustainable design/construction assessment tools include:
    - Building Research Establishment Environmental Assessment Methodology (BREEAM), EcoHomes and CALIBRE;
    - Through Life Costing/Life Cycle Analysis;
    - Movement for Innovation (M4I) sustainability toolkit;
    - GCCP Achieving Excellence in Construction Procurement toolkit;
    - CEEQUAL (Civil Engineering Environmental Quality) Assessment;
    - Defence Estates' Design Excellence Evaluation Process (DEEP).
  - Educate the project team and end-users about the principles of efficient land use and sustainable building design, and promote behavioural changes and mitigation measures to alleviate negative impacts.
  - Choose existing brownfield sites rather than expanding into new greenfield areas.
  - Choose refurbishment options before exploring opportunities for new build. Reduce the overall footprint by consolidating old, single storey buildings into more compact, higher storey developments.
  - Reclaim and restore any land areas that have previously been blighted by MOD development, e.g. crumbled hardstanding, rubble from collapsed structures.
  - Choose materials that have low through-life energy requirements and can be disposed of in an environmentally friendly manner at the end of their life.

## ILLUSTRATIVE EXAMPLES OF SCORING IN THIS THEME

A	B	C	D	E
Demolishing of redundant facilities, with a programme of land restoration	Rebuild on existing footprints or refurbish existing facilities, both to high sustainable design and construction standards	Rebuild on existing footprints and refurbishment of existing facilities	Construction of new facilities on previously undeveloped land within existing military footprint	Construction of low-storey, sprawling facilities on greenfield sites

### *Good Practice Case Studies*

Project SLAM is applying BRE's Ecohomes evaluation process to all its projects. Each project and site receives advice and a visit from environmental experts who suggest measures to boost Ecohomes values. This includes advice on orientation, siting, materials, environmental technology, landscaping and planting. There are clear communication channels between environmental advisers and designers, and all sites are registered under the Considerate Contractors Scheme and have environmental management plans.

## CONTACTS

### *Internal*

- Defence Estates Environmental Support Team, Sustainability Advisory Team (EST SAT), Durrington, moving to Westdown Camp.
- Defence Estates Estate Strategy and Policy Team (Sustainability), Foxhill, Bath.
- Defence Estates Estate Strategy Team, Sutton Coldfield – Tel: 0121 311 2012.
- Defence Estates Estate Planning and Development Team, Sutton Coldfield – Tel: 0121 311 3631.
- Defence Estate Specialist Services (SpS) Unit (for marine and coastal engineering), Sutton Coldfield – Tel: 0121 311 3842.
- Defence Estates Construction Policy Team, Sutton Coldfield – Tel: 0121 311 3705.
- Defence Estates Estate Advisors.
- Heads of Establishment.

### *External*

- Aggregates Advisory Service (a Government Advisory Service providing information on use of secondary and recycled aggregates) – [www.planning.odpm.gov.uk/aas](http://www.planning.odpm.gov.uk/aas)
- Building Research Establishment (BRE) (construction and sustainability best practice resource) – [www.bre.co.uk](http://www.bre.co.uk) – 01923 664300.
- CIRIA (Construction Industry Research and Information Association) – [www.ciria.org.uk](http://www.ciria.org.uk) – 0207 222 8891.
- Considerate Constructor's Scheme (a voluntary code of practice, driven by industry, to reward and recognise contractors commitments to raising site management, safety and environmental standards beyond statutory duties) – [www.ccscheme.org.uk](http://www.ccscheme.org.uk)

- Local Authority (Planning Department).
- Rethinking Construction (Government construction advice and best practice) – [www.rethinkingconstruction.org/rc/](http://www.rethinkingconstruction.org/rc/), incorporating:
  - Construction Best Practice Programme – <http://cbp.idnet.net> – 0845 605 5556.
  - Government Construction Clients Panel.
- Royal Institute of British Architects – [www.riba.org/go/RIBA/Home.html](http://www.riba.org/go/RIBA/Home.html) – 0207 580 5533.

## INFORMATION AND REFERENCES

- Aggregates Advisory Service Information Digests and Fact Sheets, including:
  - *033 Construction and Demolition Materials Information Exchange.*
  - *034 Recycling of Construction and Demolition Waste: A List of Potential Sources of Recycled Aggregate.*
  - *035 Potential Sources of Secondary Aggregate in England and Wales.*
  - *059 Re-use of Crushed Concrete as Aggregate.*
- CIRIA: 2000: *Environmental Management in Construction*, Report C533.
- CIRIA/DTI: 2001: *Sustainable Construction Procurement – A Guide to Delivering Environmentally Responsible Projects.*
- Defence Estates: 2003: Rural Good Practice Guidance Notes (Volume Nine – *Use of Private Land for Training*, and Volume Ten – *Disposal and Acquisition of Property*).
- Defence Estates: 2001: *In Trust and On Trust* (Strategy for the Defence Estate).
- DETR: 1998: *Sustainable Development: Opportunities for Change – Sustainable Construction* – [www.sustainable-development.gov.uk/consult/construction/index.htm](http://www.sustainable-development.gov.uk/consult/construction/index.htm)
- DETR: 1998: *Rethinking Construction* (the Egan Report) – [www.rethinkingconstruction.org/rc/report/default.asp](http://www.rethinkingconstruction.org/rc/report/default.asp)
- *Framework for Sustainable Development on the Government Estate* – Procurement chapter – [www.sustainable-development.gov.uk/sdig/improving/contextf.htm](http://www.sustainable-development.gov.uk/sdig/improving/contextf.htm) and Estates Management chapter – [www.sustainable-development.gov.uk/sdig/improving/contextg.htm](http://www.sustainable-development.gov.uk/sdig/improving/contextg.htm)
- Government Construction Clients Panel (GCCP): 2000: *Achieving Sustainability in Construction Procurement.* – <http://www.ogc.gov.uk/sdtoolkit/reference/achieving/sustainability.pdf>
- MOD JSP 362: *Defence Lands Handbook.*
- MOD JSP 418: *Environment Manual* (Chapter 5).
- ODPM: 1997: Planning Policy Guidance Note 1: *General Policy and Principles.*
- ODPM: 1995: Planning Policy Guidance Note 2: *Green Belts.*

**CHECKLIST FOR THEME G: LAND, BUILDINGS AND CONSTRUCTION MATERIALS**

Overall objective: *Minimise expansion onto green sites, explore refurbishment before building afresh, design sustainability features into new buildings and promote recycling of materials.*

POTENTIAL ISSUES	IMPACT			COMMENTS ON IMPACT	ACTION REQUIRED
	n/a	+ve	no -ve		
Opportunity to affect the design and layout of new buildings and facilities					
Change in amount of construction activity					
Opportunity to refurbish old brownfield facilities rather than build afresh					
Change in amount of green space developed					
Change in use of materials for construction and refurbishment					
Disposal or procurement of land or buildings					
Changes in how land or buildings are used					
Other land, building and construction issues					

**STAKEHOLDERS CONSULTED AND REFERENCES USED**

**SUSTAINABILITY SCORE FOR THIS THEME**

A	B	C	D	E

**PRIORITY ACTIONS AND RESOURCES REQUIRED**

## THEME H: GEOLOGY AND SOILS

### *Sustainability Objectives*

- To minimise loss of our soil resource and bring damaged land back into use;
- To maintain and enhance soil quality and protect its function as a substrate for providing food and supporting ecosystems;
- To preserve ground stability and protect features of geological importance;
- To minimise risks to health and wildlife from contaminated land.

### WHY THIS THEME IS IMPORTANT TO MOD

- H1. Geology and soils are important to the MOD due to a combination of legislative requirements and unique characteristics of the Department and its estate. Geology and soils are often dismissed as insignificant, but in fact play an important role in determining the environmental character of an area.
- H2. Geological structures, mineral deposits and soil sequences can have value for their rarity and the information they hold on past climates and earth processes. Geological Sites of Special Scientific Interest (protected under the Wildlife and Countryside Act 1981, and the Countryside and Rights of Way Act 2000) exist to conserve those localities valuable for research and education in the earth sciences. Other protective geological designations include Regionally Important Geological Sites (RIGS), National Nature Reserves and Local Nature Reserves.
- H3. Broader values of geology and soil include:
- Their important role in determining landscape shape and character;
  - The role of rock and drift deposits in soil formation;
  - Supporting flora and fauna;
  - Providing a protective mantle for archaeology;
  - Maintenance of surface stability;
  - Contribution to water quality by filtering and attenuating contaminants;
  - Storing surface water and groundwater;
  - Absorbing and regulating greenhouse gases;
  - Absorbing and attenuating noise and vibration on land and under water;
  - Providing a foundation for built developments and a substrate for crop production, and determining the buildings and crops that occur in an area;
  - Providing a source of useful aggregates, minerals, topsoil and peat.
- H4. The Government has developed a draft Soil Strategy for England and Wales, due to be amended in response to the forthcoming EU Soil Strategy. The report identifies pressures on soils, suggests measures for management and protection and indicators for monitoring improvement. Risks to soil include erosion and loss, nutrient impoverishment (by leaching or over-cultivation), compaction and contamination.
- H5. Contaminated land is a prime example of our past failure to move towards Sustainable Development and consider the implications of activities on future land-users. The Environment Agency estimates that there could be between 5,000 and 20,000 contaminated sites in England and Wales that may have an impact on human health or the wider environment.

- H6. Land contamination can occur directly from point sources such as waste or chemical stores or contaminating activities, or by diffuse deposition of airborne contaminants or materials in surface run-off and groundwater. Government priorities include both preventing further contamination of land and remediating existing contamination so that such brownfield sites become suitable for use again. The UK Land Condition Record is a continually evolving repository of information on contaminated sites.
- H7. As a Government department, MOD must comply with UK legislation and policy supporting conservation of soil and geological resources. Integrated Pollution Control (IPC) measures under the Environmental Protection Act 1990 cover contamination of land and soil and were strengthened by the Environment Act 1995. These measures, combined with the Contaminated Land (England) Regulations 2000 and the Pollution Prevention and Control Regulations 2000 have produced a rigorous Contaminated Land Regime. The MOD has a Memorandum of Understanding with the Environment Agency (the main regulator) on management of land contamination.
- H8. Sustainability Appraisal (SA) presents an opportunity to build such commitments and targets into a new project or proposal from an early stage.

### **MOD ACTIVITIES AND IMPACTS**

- H9. MOD undertakes many activities that could cause impacts on geology and soils. Construction and engineering are particularly relevant as foundations and structures are often excavated or piled into geology. Large quantities of soil and substrate can be stripped around the building's footprint. Stripped soil must be handled as Controlled Waste unless it can be recycled.
- H10. Changes in intensity or type of off-road vehicle training and manoeuvring can alter impacts on the soil of training areas. Heavy vehicles can strip surface vegetation, shear away upper soil layers and compact underlying material to depths of up to 50cm. Soil compaction can inhibit flora and fauna and reduces soil's ability to absorb surface water. Flowing surface water can erode exposed soil and transfer sediment and soil contaminants to local watercourses. Procurement of new vehicles should address ground pressure and potential soil impacts. Such soil damage can also be imposed by heavy plant around construction sites. Trampling by foot (e.g. military training and public access) can also promote soil compaction and vegetation loss.
- H11. Major engineering projects can interfere with surface and sub-surface drainage, and changes in groundwater abstraction can alter underground water movements. Water content affects the stability of some sediments, so changes in groundwater levels can trigger surface instability and landslides.
- H12. Land contamination is an important issue for MOD and there are numerous activities that have potential to affect soil and substrate quality. The bulk of contamination on the estate exists from historic activities and processes, when the consequences were not so well understood or regulated. Any disposal of land should be accompanied by a Land Quality Assessment (LQA) to reduce uncertainties over likelihood of contamination and help develop plans for remediation if required. Levels and type of contamination may restrict how the land may be reused, and consequently affect its value.
- H13. Changes in intensity of firing can have implications for soil quality if there is likely to be an accumulation of heavy metal, biological, chemical, radiological and explosive residues on the surface. Changes in type and intensity of use, transport, handling and storage of fuels and chemicals should be assessed for potential contamination risks.
- H14. MOD disposes of significant quantities of waste to landfill each year, with indirect impacts if contaminants seep into sediment, soil and groundwater.

H15. Disturbance to the soil sequence can also constitute contamination if unfertile lower soil layers become mixed with fertile surface layers. This type of disturbance occurs through e.g. cratering by large artillery firing, construction activities or changes in ploughing regimes of tenant farmers.

### MITIGATION OR ENHANCEMENT OPPORTUNITIES

H16. The following suggestions can help offset some of the potential negative impacts that SA may identify, and provide ideas to enhance a proposal.

- Undertake further assessments to evaluate the quality and value of soil and geological resources if the proposal is likely to have significant effects. Defence Estates Specialist Services Unit and TLB Environmental focal points will be able to advise on Land Quality Assessment (LQA) processes.
- Educate the project team and end-users about the value of geological and soil resources and promote behavioural changes and mitigation to alleviate impacts.
- If soil is stripped before digging foundations for a new development, consider carefully handling and storing it so it can be used as topsoil or infill elsewhere.
- Follow operating procedures to minimise and clean up spills of chemicals, fuels and residues of explosives and rounds.
- Minimise the amount of waste sent to landfill.

### ILLUSTRATIVE EXAMPLES OF SCORING IN THIS THEME

A	B	C	D	E
Remediation of contaminated land.  Removal of activities and substances that could lead to land contamination	Incorporation of pollution prevention measures in the design of facilities to prevent contamination	Temporary changes in localised soil compaction or stripping due to construction activities or off-road driving	Minor risk of further land contamination.  Soil compaction or stripping due to construction activities or off-road vehicle driving	Loss/damage to geological SSSIs through construction or engineering.  Significant risk of further contamination from facilities or activities

#### *Good Practice Case Studies*

Construction of stone roads at Copehill Down, Salisbury Plain, generated quantities of surplus topsoil. This was stockpiled for use in repairing range butts, craters and vehicle track scars. Use of local soil ensures repairs are undertaken with material of an appropriate pH and seed bank to support the chalk grassland SSSI habitat.

### CONTACTS

#### *Internal*

- Defence Estates Specialist Services Unit, Sutton Coldfield – Tel: 0121 311 2007 – for contaminated land and Land Quality Assessment issues.
- Defence Estates Environmental Support Team, Sustainability Advisory Team (EST SAT), Durrington, moving to Westdown Camp.
- MOD D SEF Pol (policy and ministerial level advice), St Giles Court, London.

- CESOs and Environmental Focal points for each TLB.
- Regional, Establishment, base or Unit Environmental focal points.
- MOD Defence Scientific and Technical Laboratories (DSTL) – advice on handling contamination (including radiological contamination).

### **External**

- Local Authority (cont land inspectors).
- Environment Agency (including National Groundwater and Contaminated Land Centre) – **[www.environment-agency.gov.uk](http://www.environment-agency.gov.uk)** – General enquiries – 08459 333111.
- Scottish Environmental Protection Agency (SEPA) – **[www.sepa.org](http://www.sepa.org)** – 01786 457700.
- British Geological Survey (general geological information resource) – **[www.bgs.ac.uk](http://www.bgs.ac.uk)**
- Geologists Association – **[www.geologist.demon.co.uk](http://www.geologist.demon.co.uk)**
- Geological Society – **[www.geolsoc.org.uk](http://www.geolsoc.org.uk)**
- English Nature (English Statutory Body) – **[www.english-nature.org](http://www.english-nature.org)**
- Countryside Council for Wales (Welsh Statutory Body) – **[www.ccw.gov.uk](http://www.ccw.gov.uk)**
- Scottish Natural Heritage (Scottish Statutory Body) – **[www.snh.org.uk](http://www.snh.org.uk)**
- Environment and Heritage Service Northern Ireland (Northern Ireland Statutory Body) – **[www.ehsni.gov.uk](http://www.ehsni.gov.uk)**
- Joint Nature Conservation Committee (UK Government's wildlife advisory body) – **[www.jncc.gov.uk](http://www.jncc.gov.uk)**
- ContaminatedLand.co.uk – general information resource – **[www.contaminatedland.co.uk](http://www.contaminatedland.co.uk)**

### **INFORMATION AND REFERENCES**

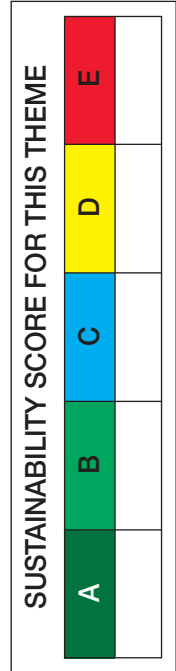
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- DEFRA Land and Soil Quality Contamination information resource – **[www.defra.gov.uk/environment/landliability/index.htm](http://www.defra.gov.uk/environment/landliability/index.htm)**
- DEFRA Pollution Prevention and Control information resource – **[www.defra.gov.uk/environment/ppc.index.htm](http://www.defra.gov.uk/environment/ppc.index.htm)**
- DETR: 2001: *Draft Soil Strategy for England and Wales* – **[www.defra.gov.uk/environment/consult/dss/index.htm](http://www.defra.gov.uk/environment/consult/dss/index.htm)**
- DETR: 2000: Circular 2/2000 *Contaminated Land: Implementation of Part IIA of the Environmental Protection Act 1990*.
- MOD JSP 418: *Environment Manual* (Chapter 7.5).
- ODPM: 1990: Planning Policy Guidance Note 14: *Development on Unstable Land*.
- ODPM: 1994: Planning Policy Guidance Note 23: *Planning and Pollution Control*.
- Royal Commission on Environmental Pollution: 1996: *Sustainable use of soil*. Report Cm 3165.

### CHECKLIST FOR THEME H: GEOLOGY AND SOILS

Overall objective: *Minimise loss and disturbance of soil and substrates. Minimise soil contamination risks and remediate previously degraded land.*

POTENTIAL ISSUES	IMPACT				COMMENTS ON IMPACT	ACTION REQUIRED
	n/a	+ve	no	-ve		
Change in off-road vehicle use (type, timing or intensity) or firing						
Presence of construction activities (e.g. foundations, piling, pipelines) to cause soil removal or structural instability						
Change in use, type or storage of fuels and other hazardous substances						
Disposal or development of land that has potential to be contaminated						
Generation of surplus soil to be disposed of as waste						
Proximity to a geological SSSI						
Other geology and soil issues						

**STAKEHOLDERS CONSULTED AND REFERENCES USED**



**PRIORITY ACTIONS AND RESOURCES REQUIRED**



## THEME I: BIODIVERSITY AND NATURE CONSERVATION

### *Sustainability Objectives*

- To reverse trends of damage to species, habitats and ecosystems, avoid reductions in biodiversity and identify enhancement opportunities;
- To work with others to combat global challenges of threats to biodiversity, oceans and forests and to educate people about the value of ecosystems.

### WHY THIS THEME IS IMPORTANT TO MOD

11. Biodiversity and Nature Conservation is an important topic for MOD due to a combination of legislative requirements and unique characteristics of the Department and its estate. The wildlife of the UK is an integral part of its countryside, towns, waters and coast. However, UK wildlife has suffered significant losses over recent years, mirroring similar losses worldwide. For example, the extent of UK lowland heathland has reduced from 400,000 hectares to 60,000 hectares in the last 200 years. Therefore, the impetus to conserve the world's biodiversity has grown.
12. The concept of biodiversity encapsulates the variety of life on earth, including all species of plants and animals along with their genetic variation and the complex ecosystems of which they are a part. Biodiversity is important because it is one of the systems that sustains human existence. Locally, biodiversity contributes to the distinctive character of an area, be it a mountain, woodland or even an urban area, and enriches quality of life.
13. In 1992 the UK signed the Biodiversity Convention at the UN Conference on Environment and Development in Brazil (the Rio Summit). This committed UK to develop home-nation strategies for biodiversity protection and, Biodiversity Action Plans have been published for a wide range of priority habitats and species, giving targets and action for conservation. The Rio commitment also promoted measures to ensure biodiversity is addressed in policies, plans and projects. The Johannesburg World Summit for Sustainable Development 2002 committed to significantly reducing biodiversity loss by 2010.
14. Common threats to Biodiversity include:
  - Direct habitat loss, e.g. vegetation removal and building construction;
  - Unsustainable rates of hunting, fishing and harvesting;
  - Introduction of alien, invasive species that out-compete natural species;
  - Reduction in habitat quality by introducing substances to air, land and water that affect the health of flora and fauna;
  - Habitat fragmentation, whereby large areas become broken up by built developments, new transport routes or removal of hedgerow 'corridors'. Dividing and confining populations in smaller areas increases stress, makes them less resilient to destruction and disease and reduces the variety in the gene pool;
  - Removal of elements that sustain an ecosystem, e.g. restricting water flow to a marshy habitat;
  - Disturbance by people, vehicle, vessels, aircraft and equipment and other activities, especially during breeding or feeding;
  - Poor or inappropriate land management.
15. Conservation of wildlife depends on protecting the habitat on which it depends, something that is assisted by legislation and protective designations. As a Government department, the MOD must comply with UK legislation and policy supporting nature conservation objectives.

16. European legislation and International Conventions include:
- EC Habitats Directive (European Community Council Directive on the Conservation of Natural Habitats and Wild Fauna and Flora [92/43/EEC]), which generates Special Areas for Conservation (SAC);
  - EC Birds Directive (European Community Council Directive on the Conservation of Wild Birds [79/409/EEC]) which generates Special Protection Areas (SPA);
  - Draft Offshore Habitats Regulations – to extend network of SACs and SPAs beyond current 12 Nautical Mile limit to EU territorial waters;
  - Ramsar Convention on Wetlands of International Importance (1971), which covers valuable wetland habitats and species, as well as their hydrological and cultural assets;
  - Bern Convention on the conservation of European wildlife and natural habitats (1979);
  - Rio Biodiversity Convention 1992;
  - World Heritage Convention 1972.
17. European Designations ensure that if a project or proposal is likely to have a significant impact on the feature for which the designation was applied, an Appropriate Assessment must be undertaken. Appropriate Assessments are ecological assessments that determine the nature and magnitude of impacts and identify mitigation measures. Chapter Ten describes detail of Appropriate Assessments, explaining when they are needed and the stages involved.
18. International and national commitments are captured in UK legislation by the:
- Wildlife and Countryside Act 1981, which protects areas such as Sites of Special Scientific Interest (SSSI) (Areas (ASSI) in N. Ireland) to with in the coastal zone, and Marine Nature reserves to three Nautical Miles.
  - Countryside and Rights of Way Act (England and Wales) 2000, which strengthens the Wildlife and Countryside Act and gives Government departments the duty to consider biodiversity in their activities.
  - The Habitats Regulations (Statutory Instrument No. 2716, The Conservation (Natural Habitats etc) Regulations 1994), which apply the European Directives to the UK (Habitats Regulations 1995 in N. Ireland).
19. In the UK, nationally important features are protected on SSSIs and National Nature Reserves (NNRs). Regionally and locally important features are protected on Local Nature Reserves (LNRs), non-statutory Nature Reserves and Sites of Importance for Nature Conservation (although names of local designations vary). It is important to remember that species do not recognise administrative boundaries, therefore the biodiversity and nature conservation value in the UK is not solely confined to designated sites. Some species such as bats and great crested newts are protected wherever they occur.
110. Many military training areas have had restrictions on built or agricultural development and public access. Parts of the estate have become a haven for species and habitats that have otherwise declined, and have been designated as protected sites. There are 270 SSSIs part or wholly on land that MOD owns or uses, of which 136 have one or more international designations. There are an additional 134 SSSIs adjacent or near to MOD sites, of which 41 have international designations. A notable site is Salisbury Plain. Much of the training area is a SSSI, but some is a SAC because it is the largest expanse of semi-natural chalk grassland in NW Europe, and some is a SPA because of rare breeding bird species, e.g. stone curlew. Estate staff can access departmental SSSI databases to identify if a project affects a designated site.

111. It is important to remember that wildlife interest is not confined to large rural training areas. Any patch of green and open space, shrubs, hedgerows or trees provide habitats for invertebrates and small mammals, and maintenance regimes can strongly influence the number and diversity of species. Buildings can provide roosts for bats and nesting sites for birds, so advice must be sought if potentially disturbing activities are proposed. Nature conservation is increasingly adopting an '*ecosystem approach*', whereby one does not focus on individual species or sites, but considers their place within wider ecosystems, along with inter-relationships between other habitats and the supporting nutrient supplies and hydrological conditions.
112. As a Government Department, MOD is expected to comply with Government policy targets for biodiversity, as stated in the *Framework for Sustainable Development on the Government Estate* (2002). Biodiversity targets include:
- By October 2003 to have methods to integrate biodiversity into environmental management systems. Where there are significant issues, conduct habitat/species audits and assess impacts of activities on biodiversity – on 40% of sites by October 2004 and 80% of sites by October 2006;
  - Develop action plans for nationally and locally important features for 40% of sites by October 2005 and 80% of sites by October 2007;
  - Ensuring that 68% and 95% of SSSIs by 2006 and 2010 respectively reach favourable or recovering condition status;
  - Include biodiversity protection clauses in new grounds/building maintenance contracts and new build, refurbishment or leasing contracts.
113. MOD policy on nature conservation is currently outlined in Chapter 5 of JSP 362 – the Defence Lands Manual. Declarations of Intent with English Nature, Countryside Council for Wales and Scottish Natural Heritage, and a Memorandum of Understanding with DEFRA and the devolved administrations also cement MOD's commitment to nature conservation and stakeholder liaison. Sustainability Appraisal presents an opportunity to build commitments and targets into a new project or proposal from an early stage.

## **MOD ACTIVITIES AND IMPACTS**

114. MOD undertakes many activities that can directly and indirectly impact on biodiversity and nature conservation. Construction and engineering activities can directly destroy habitats by stripping surface material under the immediate footprint, and in the vicinity where vehicles and plant operate. Construction activities also create noise that may be disturbing to animals, and raise dust that can be deposited on plants, inhibiting their photosynthesis. The physical presence of the eventual structures may contribute to habitat fragmentation. Structures and hard surfaces can also alter water infiltration and flow patterns, which may reduce or increase water to ecosystems and change the species balance. Conversely, construction and refurbishment can present opportunities to create habitat e.g. bat roosts.
115. Site acquisition and disposal has implications for ecological wellbeing. The conservation interest of new sites should be assessed so that MOD can manage it effectively. Similarly, if MOD is selling a site with conservation value, its status should be declared and an agreement made that the new owner will manage the wildlife sympathetically.
116. Military training has many aspects that could impact on biodiversity and if there are significant changes in training (e.g. numbers of people or vehicles, location timing and duration), ecological implications should be considered. Fauna may suffer direct collisions with vehicles or live firing, but it is more likely that they will suffer disturbance or stress through noise and movement of people, vehicles, aircraft and ordnance. Vegetation can be removed by trampling, shearing under vehicle tracks and cratering by explosives.

- 117. Ecological factors should be considered when assessing other activities on the estate, e.g. under the MOD Wider Markets Initiative where, subject to operational constraints, other organisations have been able to ‘rent’ areas of land or buildings for activities such as orienteering, vehicle rallies or filming.
- 118. MOD tenants (e.g. farmers) should consider potential ecological impacts of their activities. Changes in estate management and maintenance regimes should also be assessed. Increased opportunity for public access on the estate may also allow people, vehicles and dogs to disturb wildlife.
- 119. Impacts of conservation regimes themselves should also be considered as activities that promote one species or habitat may be detrimental to other features. For example installing stone roads for non-tactical vehicle manoeuvring helps alleviate widespread soil and vegetation impacts but may contribute to habitat fragmentation and wildlife disturbance by opening up new areas to recreational vehicles.

**MITIGATION OR ENHANCEMENT OPPORTUNITIES**

The following suggestions can help offset some of the potential negative impacts that SA may identify, and provide ideas to enhance a proposal.

- Undertake further surveys and assessments to evaluate baseline ecological characteristics and potential impacts of the proposal if they are likely to be significant. Use Local BAPs to identify priority species and habitats.
- Educate the project team and end-users about the value of diverse habitats and species, and promote behavioural changes and mitigation techniques to minimise negative impacts.
- Develop component management plans for nature and woodlands, either independently, or within a site Environmental Management System, Integrated Land Management Plan or Integrated Rural Management Plan if present. Refer to *Defence Estates’ Rural Good Practice Guidance Notes*.
- If creating new areas of woodland on otherwise wildlife-poor areas, choose a mixture of native species (broad-leaved and conifer) rather than a uniform stand of non-native coniferous trees.
- Maintain or create a diversity of habitats by varying sward heights on green or grassy spaces, retaining ponds, trees and hedges and incorporating ‘wildlife-friendly’ features into structures (e.g. culverts or passageways under roads, hedgehog ramps in cattle grids).
- Farm tenancy or commercial partnering agreements should include appropriate clauses on the protection of local habitats and species.
- Where practicable, time potentially disturbing activities so they do not coincide with breeding seasons of birds or other fauna, or the seeding cycle of flora.

**ILLUSTRATIVE EXAMPLES OF SCORING IN THIS THEME**

A	B	C	D	E
Enhancement of ecological value through proactive management, habitat creation or release of important sites to conservation bodies	Timing of live firing or construction activities to avoid disturbance to breeding birds.  Creation of buffer zones round protected habitats	Short-term or indirect disturbance to habitats or species protected at local level	Direct disturbance, loss of or permanent damage to habitats or species protected at local or national level	Direct disturbance, loss of or permanent damage to habitats or species protected at the European or international level

### *Good Practice Case Studies*

Recent refurbishment of a communications facility on the Akrotiri peninsula, Cyprus, was informed by detailed assessment of hydrology, vegetation, birds, mammals, reptiles, amphibians and invertebrates. The resulting data enabled numerous mitigation measures to be implemented, including:

- Translocating an area of internationally important salt marsh habitat affected by new hardstanding;
- Capturing protected small mammals and reptiles for release away from the construction site;
- Preparing a detailed construction environmental management plan;
- Illuminating the antennae at night and putting markers on guy-wires to minimise bird collisions;
- Developing a comprehensive environmental management plan for the Salt Lake area, which was designated as a Ramsar site during the life of the project.

## **CONTACTS**

### ***Internal***

- Defence Estates Estate Strategy and Policy Team (Sustainability) (Rural and Marine), Foxhill, Bath – Tel: 01225 883523.
- Defence Estates Environmental Support Team, Warminster – Tel: 01985 222872.
- Local MOD or Unit Conservation Group, if applicable.
- CESOs and Environmental Focal points for each TLB.
- Regional, Establishment, base or Unit Environmental focal points.

### ***External***

- English Nature (English Statutory Body) – **[www.english-nature.org](http://www.english-nature.org)**
- Countryside Council for Wales (Welsh Statutory Body) – **[www.ccw.gov.uk](http://www.ccw.gov.uk)**
- Scottish Natural Heritage (Scottish Statutory Body) – **[www.snh.org.uk](http://www.snh.org.uk)**
- Environment and Heritage Service Northern Ireland (Northern Ireland Statutory Body) – **[www.ehsni.gov.uk](http://www.ehsni.gov.uk)**
- Joint Nature Conservation Committee (UK Government's wildlife advisory body) – **[www.jncc.gov.uk](http://www.jncc.gov.uk)**
- Marine Life Information Network (MARLIN) for Britain and Ireland – **[www.marlin.ac.uk](http://www.marlin.ac.uk)**
- Royal Society for the Protection of Birds (RSPB) – **[www.rspb.org.uk](http://www.rspb.org.uk)** – 01767 680551.
- Scottish Biodiversity Forum – Tel: 0131 244 6540.
- Wildlife Trusts (network of 47 County wildlife trusts) – **[www.wildlifetrusts.org](http://www.wildlifetrusts.org)** – 01636 677711.
- UK Biodiversity Partnership – **[www.ukbap.org.uk](http://www.ukbap.org.uk)**
- Local Authorities (for National, Regional and Local Biodiversity Action Plans, records and data collection).

There are many more local and specialist groups that can provide advice on specific sites and species, or who have access to data and records.

## INFORMATION AND REFERENCES

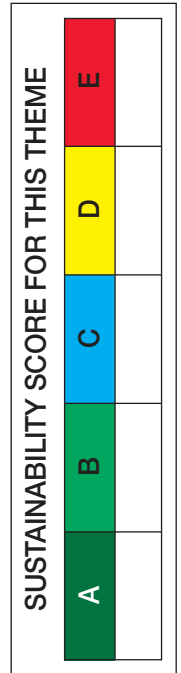
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- Defence Estates: 2003: Rural Good Practice Guidance Notes (Volume Two – *Nature Conservation*, and Volume Eight – *Woodland Management*).
- Defence Estates: 2001: *In Trust and On Trust* (Strategy for the Defence Estate).
- DEFRA: 2003: *Sites of Special Scientific Interest: Encouraging Positive Partnerships*.
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- English Nature: 1996: *Strategic Environmental Assessment and Nature Conservation*.
- English Nature: 1995: *Habitat Creation – A Critical Guide*.
- English Nature: 1994: *Nature Conservation in Environmental Assessment*.
- *Framework for Sustainable Development on the Government Estate* – Biodiversity chapter – [www.sustainable-development.gov.uk/sdig/improving/contexth.htm](http://www.sustainable-development.gov.uk/sdig/improving/contexth.htm)
- MOD JSP 362: *Defence Lands Manual* (Chapter 5).
- MOD JSP 418: *Environment Manual* (Chapter 7.6).
- ODPM: 1994: Planning Policy Guidance Note 9: *Nature Conservation*.

### CHECKLIST FOR THEME I: BIODIVERSITY AND NATURE CONSERVATION

Overall objective: *Seek to protect habitats and species and promote opportunities to enhance and conserve wildlife.*

POTENTIAL ISSUES	IMPACT				COMMENTS ON IMPACT	ACTION REQUIRED
	n/a	+ve	no	-ve		
Proximity to a designated site (particularly SSSI, SPA, SAC or Ramsar site)						
Presence of European/Nationally protected or BAP species						
Change in location, intensity, type or timing of training activities						
Change in land use or land management practice (including conservation regimes)						
Acquisition or disposal of land or property with biodiversity interest						
Change in amount of public access or recreational opportunities						
Changes in people and vehicle movement, noise, dust or habitat loss due to construction and engineering projects						
Other biodiversity and nature conservation issues						

**STAKEHOLDERS CONSULTED AND REFERENCES USED**



**PRIORITY ACTIONS AND RESOURCES REQUIRED**



## THEME J: ARCHAEOLOGY AND HISTORIC ENVIRONMENTS

### *Sustainability Objectives*

- To protect all aspects of the historic environment (including underwater features) for its own sake and as a central part of our cultural heritage;
- To ensure appropriate management systems are in place to maintain and enhance important archaeological sites, historic landscapes and buildings.

### WHY THIS THEME IS IMPORTANT TO MOD

- J1. Archaeology and the historic environments are important topics for MOD due to a combination of legislative requirements and unique characteristics of the Department and its estate. Archaeological remains are often fragile and vulnerable to damage, and are almost always irreplaceable. They may constitute the only evidence of the past development of our civilisation so should be treated as a finite, non-renewable resource.
- J2. Archaeological records in England alone detail around 600,000 sites and monuments. Some 13,000 nationally important sites are categorised as Scheduled Monuments and are protected under the Ancient Monuments and Archaeological Areas Act 1979.
- J3. Archaeology is just one aspect of ‘cultural heritage’, which refers to all material remains of past human activities, including ‘built heritage’. Built heritage includes listed buildings and features in Conservation Areas (protected under the Town and Country Planning Act 1990 and the Planning (Listed Buildings and Conservation Areas) Act 1990, and 1997 Scottish equivalents). Features can also be protected under Planning Policy (PPG 15/16) if they are of “local distinctiveness or historic character”.
- J4. It is important to look beyond individual sites, buildings and features as the whole landscape bears the imprint of successive generations of human activity. Change has always been a vital aspect of the historic environment and it is not possible or desirable to ‘freeze’ what we have inherited from previous generations. However, change must be managed carefully to ensure future generations can develop their own understanding of the past.
- J5. The 240,000 hectare MOD estate has a vast rural component that has been largely unaffected by commercial, agricultural or built development. This has enabled the survival of a unique array of archaeological and heritage features. Salisbury Plain Training Area is one of the most extensive and varied archaeological landscapes in NW Europe, with 2,342 features (555 of which are protected by inclusion in 307 Scheduled Ancient Monuments). There are around 1,285 Scheduled Monuments in total on the MOD estate, although this is a small proportion of the total number of features.
- J6. There are over 680 listed buildings on the MOD estate. These may be old or unique features that just happen to lie on the estate, or military buildings that are features of historical or architectural importance in their own right. MOD holds 52% of Government heritage properties.
- J7. Military activities have shaped the development of our society over the centuries so military features play a major role in our heritage. The Defence of Britain project was spearheaded by the Council for British Archaeology and involved collating a database of defence heritage features in the UK (not just on the defence estate). Between 1995 and December 2001, a total of 19,500 features were catalogued, ranging from barrage balloon moorings, pillboxes and gun placements, to forts and harbour features.
- J8. Archaeology and military history also extends offshore in the form of shipwrecks and other submerged antiquities, which fall under the Protection of Wrecks Act 1973.

- J9. As a Government department, the MOD must comply with UK legislation and policy that support preservation of archaeology and heritage. As well as the aforementioned Ancient Monuments and Archaeological Areas Act 1979, Planning and Listed Building legislation, the Treasure Act 1996 also governs how precious artefacts are handled once discovered. The Government has produced Planning Policy Guidance notes on *Planning and the Historic Environment* (PPG 15) and *Archaeology and Planning* (PPG 16), both of which are currently being updated.
- J10. The National Heritage Bill 2001 extends English Heritage's existing Statutory role to maritime heritage within the 12 mile limit of England's coasts. The note for Theme J – Marine Environments presents maritime heritage legislation, to protect shipwrecks and other submerged antiquities, in more detail.
- J11. MOD policy for Archaeology and Historic Buildings is laid out in Chapter 6 of JSP 362, the *Defence Lands Manual*, and the latter is also covered in the MOD Conservation Manual. The Estate Strategy, *In Trust and On Trust* (June 2000) sets out detailed objectives for the management of heritage and archaeology on the defence estate, including:
- Developing and training staff to ensure the significance of the cultural landscape is fully understood and appreciated;
  - Managing and using cultural heritage sites positively and proactively to safeguard their value;
  - Ensuring that archaeological surveys are undertaken in advance of development.
- Sustainability Appraisal (SA) presents an opportunity to build such commitments and targets into a new project or proposal from an early stage.
- J12. The Government policy requirement for Archaeological Evaluation can present a risk of delay and unforeseen expense for projects when they reach Planning approval stage. Under PPG 16, the County Archaeologist can request an archaeological evaluation if it is thought that there is a risk to archaeology.
- J13. Evaluation can comprise desk research, non-invasive surveying and trial trenching. Unless the County Archaeologist is engaged early on and evaluations undertaken prior to applying for planning permission, there can be large impacts on project design, timetables and budgets.

## **MOD ACTIVITIES AND IMPACTS**

- J14. MOD undertakes numerous activities that could impact on archaeological or built heritage features. Construction, engineering and demolition activities are particularly relevant because excavations and foundations can damage buried features or cap them and reduce opportunities for excavation and study. Professional advice must be sought for any development proposal as, even in areas where features have not been recorded, only a specialist will have an accurate perspective on likelihood of occurrence, and one cannot always predict what lies under the surface without trial investigations. Only Salisbury Plain, Otterburn, Warcop and Willsworthy have been mapped to National Mapping Programme (NMP) quality so lack of records on many sites usually reflects lack of investigation rather than lack of features.
- J15. New build and building refurbishment in Conservation Areas and around Listed Buildings must be sympathetic to vernacular styles and reflect the character and quality of the historic buildings in design, layout and materials.
- J16. Changes in intensity of live or dry field training should consider impacts on archaeology. Whereas construction can cause sudden, direct devastation, progressive attrition by trampling or driving can also lead to permanent, irreversible damage as archaeology does not regenerate like habitats and species do. Changes in type or amount of explosive ordnance used may change cratering patterns on impact areas, which may contain archaeological features. Changes in blast wave patterns from different explosives or artillery may vary the vibration levels experienced by historic buildings.

- J17. Impacts are not solely restricted to military activities. Agricultural tenants embarking on ploughing regimes, and occasional events such as off-road vehicle rallies or film production under e.g. the Wider Markets Initiative could be very destructive. Increased public access could introduce trampling pressures and increase risk of unauthorised removal of artefacts. MOD holds ultimate responsibility for the activity of others on its estate.
- J18. Offshore activities e.g. underwater explosions, offshore firing, amphibious landings, dredging and anchor dragging, may disturb underwater features.

### MITIGATION OR ENHANCEMENT OPPORTUNITIES

- J19. The following suggestions can help offset some of the potential negative impacts that a Sustainability Appraisal may identify, and provide ideas to enhance a proposal.
- Undertake further assessments to establish the presence of archaeological, cultural or built heritage and likely impacts of the proposal. Consult the County Archaeologist or local archaeological and heritage groups for professional advice.
  - Educate the project team and end-users about the value of archaeological, cultural and built heritage, and promote behavioural changes and mitigation measures to alleviate negative impacts.
  - Develop component management plans for archaeology and heritage, either independently, or within a site Environmental Management System, Integrated Land Management Plan or Integrated Rural Management Plan if present. Refer to Defence Estates' *Rural Good Practice Guidance Notes*.
  - Utilise protective membranes (geotextiles) under construction and engineering projects to spread the load and minimise damage to deeply buried features.
  - Use signage or physical barriers to protect features from damage.

### ILLUSTRATIVE EXAMPLES OF SCORING IN THIS THEME

A	B	C	D	E
<p>Sensitive restoration of monuments and features.</p> <p>Encourage public access and research</p>	<p>Avoidance of loss or damage through careful location of facilities and training activities and sensitive construction techniques</p>	<p>Impact on the setting of locally designated features.</p> <p>Minor risk of damage to undiscovered archaeological features</p>	<p>Permanent impact on the setting of national or internationally designated features of historic interest. Loss or damage to locally designated featured</p>	<p>Direct loss of or permanent damage to national or internationally designated historic features.</p> <p>Severe risk of damage to undiscovered features</p>

### *Good Practice Case Studies*

Surveys, technical evaluation, research and liaison with the County Archaeologist and EH at Albermarle Barracks, Northumberland, enabled assessment of effects of increased tracked vehicle use on buried remains of Hadrian's Wall. Comparison of vibration and compression loads of MLRS and existing traffic confirmed that MLRS could use the existing road rather than build a diversionary six-mile link road.

Introduction of AS90 to Otterburn Training Area prompted widespread surveying of areas proposed for new tracks or track widening. Targeted excavations included Bellshiel Roman Marching Camp, where finds contributed to knowledge of Roman and later coal mining practices, and were publicly reported. An excavated panel of rock carvings was studied and replaced in a similar aspect near the new road.

Innovative and humane techniques have been applied to protect features from badger disturbance on Salisbury Plain. Robin Hoods Ball (a Neolithic causewayed enclosure) became colonised by badgers, which had to be excluded using DEFRA guidelines. A badger proof fence was erected along the 1km perimeter and one-way gates allowed badgers out but not back in. Once the badgers were out, setts were filled in, and the fence will be monitored and maintained to prevent further entry.

## **CONTACTS**

### ***Internal***

- DE Environmental Support Team Archaeologists, Defence Estates, Building 95, Land Warfare Centre, Warminster, Wiltshire, BA12 0DJ. Tel: 01985 222876.
- Defence Estates Estate Strategy and Policy Team (Sustainability) (Rural), Foxhill, Bath.
- Defence Estates Principle Architect, Design and Conservation, Sutton Coldfield – Tel: 0121 311 2018.
- Defence Estates Estate Advisers.

### ***External***

- Association of Local Government Archaeological Officers (ALGAO) – **[www.algao.org.uk](http://www.algao.org.uk)** – Tel 01287 205863.
- CADW (Statutory Body for Welsh Historic Monuments and National Monuments Record) – **[www.cadw.wales.gov.uk](http://www.cadw.wales.gov.uk)**
- Council for British Archaeology – **[www.britarch.ac.uk](http://www.britarch.ac.uk)**
- English Heritage (English Statutory Body and National Monuments Record) – **[www.english-heritage.org.uk](http://www.english-heritage.org.uk)**
- Environment and Heritage Service Northern Ireland (Northern Ireland Statutory Body and National Monuments Record) – **[www.ehsni.org.uk](http://www.ehsni.org.uk)**
- Government Historic Buildings Advisory Unit (GHBAU) – Tel: 020 7973 3084.
- Historic Scotland (Scottish Statutory Body) – **[www.historic-scotland.gov.uk](http://www.historic-scotland.gov.uk)**
- Institute of Field Archaeologists – **[www.archaeologists.net](http://www.archaeologists.net)** – Tel: 0118 931 6446.
- Ulster Architectural Heritage Society (Northern Ireland Listed Buildings) – **[www.uahs.co.uk](http://www.uahs.co.uk)**
- Scottish National Monuments Record – **[www.rcahms.gov.uk](http://www.rcahms.gov.uk)**
- Society for Protection of Ancient Buildings – **[www.spab.org.uk](http://www.spab.org.uk)** – Tel: 0207 377 1644.
- Local archaeological/heritage interest groups.

## INFORMATION AND REFERENCES

- Council for British Archaeology: 2002: *A Review of the Defence of Britain Project* – [www.britarch.ac.uk/projects/dob/review/index.html](http://www.britarch.ac.uk/projects/dob/review/index.html)
- Defence Estates: 2003: Rural Good Practice Guidance Notes (Volume Three – *Historic Environment*).
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- Defence Estates Technical Bulletin 01/16: April 2001: *Historic Buildings*.
- Defence Estates: 2001: *In Trust and On Trust* (Strategy for the Defence Estate).
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- English Heritage: 2002: *State of the Historic Environment Report*.
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- English Heritage: 1998: *Monuments of War: The Evaluation, Recording and Management of Twentieth Century Military Sites*. (PC 50505).
- English Heritage: 1995 (revised 1999): *Scheduled Ancient Monuments: A Guide for Owners and Occupiers*. (PC 50403).
- Heritage Scotland: 2002: *Passed to the Future – Historic Scotland's Policy for the Sustainable Management of the Historic Environment*.
- MOD JSP 362: *Defence Lands Manual* (Chapter 6).
- MOD JSP 418: *Environment Manual* (Chapter 7.6).
- MOD Historic Buildings Annual Reports.
- ODPM: 1994: Planning Policy Guidance Note 15: *Planning and the Historic Environment*.
- ODPM: 1990: Planning Policy Guidance Note 16: *Archaeology and Planning*.
- National Assembly of Wales: 1991: Planning Policy Guidance Note 16 (Wales): *Archaeology and Planning*.
- Scottish Executive: 1994: National Planning Policy Guideline 5: *Archaeology and Planning*.
- Planning Advice Note 42 (PAN 42): *Archaeology – the Planning Process and Scheduled Monuments Procedure* (Scotland).
- Historical Monuments and Archaeological Objects (Northern Ireland) Order 1995.

**CHECKLIST FOR THEME J: ARCHAEOLOGY AND HISTORIC ENVIRONMENT**

Overall objective: *Protect and enhance features of archaeological interest, the historic environment and cultural heritage.*

POTENTIAL ISSUES	IMPACT				COMMENTS ON IMPACT	ACTION REQUIRED
	n/a	+ve	no	-ve		
Chance of activity affecting known archaeological or heritage features						
Chance of activity affecting unknown archaeological or heritage features						
Change in intensity of training near archaeology or historic buildings (e.g. driving, firing, digging, noise, vibration)						
Change in intensity of construction or engineering works						
Change in land management regime, e.g. forestry, ploughing, recreation						
Acquisition or disposal of sites that may have archaeological or heritage features						
Refurbishment or change of use of historic buildings						
Other archaeological and historic environment issues						

**STAKEHOLDERS CONSULTED AND REFERENCES USED**

**SUSTAINABILITY SCORE FOR THIS THEME**

A	B	C	D	E

**PRIORITY ACTIONS AND RESOURCES REQUIRED**

## THEME K: LANDSCAPE AND TOWNSCAPE

### *Sustainability Objectives*

- To ensure that development reflects and respects the character of rural and urban landscapes and avoids visual intrusion;
- To reverse trends of damage to natural landscapes and to maintain and enhance landscape character;
- To protect features of historical, archaeological and cultural value in both towns and countryside;
- To maintain the stability of coastal landforms and features.

### WHY THIS THEME IS IMPORTANT TO MOD

- K1. Landscape and Townscape are important issues for MOD due to a combination of legislative requirements and unique characteristics of the Department and its estate. Landscapes and townscapes result from long-term and short-term interactions between geology, landforms, soils, flora and fauna, human settlement patterns and land use and reflect peoples' perceptions of these. The 240,000 hectares of MOD estate is approximately two thirds rural and one third 'built', and many areas of the estate are noted for their natural beauty or architectural heritage.
- K2. Landscapes and townscapes have a strong economic, social and community value. Landscape appreciation can be a highly subjective issue, and different people find appeal in different things. Many of the elements that constitute an attractive landscape or townscape include features that are difficult to quantify, such as wildness and tranquillity.
- K3. The ability to experience and appreciate a quality skyscape is a valuable resource. The quality and darkness of night skies is diminishing as towns cast and reflect increasing amounts of light away from Earth. Many people, particularly astronomers, value the beauty of vast, dark, starry skies and the scientific knowledge that their study yields. Opportunities to experience such sights are increasingly being restricted to isolated, rural areas. Between 1993 and 2000, the extent of severe light pollution in the UK (sky that is orange due to misdirected light) grew by 17%, and over half the population may never see the Milky Way.
- K4. Areas that are widely acclaimed for their landscape quality and national, regional and local importance have been awarded protective designations. As a Government department, the MOD must comply with UK legislation and policy to conserve unique landscapes and townscapes.
- K5. The 15 existing and proposed National Parks in the UK are nationally important areas of extensive, relatively unspoilt scenic beauty. The National Parks and Access to the Countryside Act 1949 (and National Parks (Scotland) Act 2000) secures their protection and promotes quiet public enjoyment. One third of the MOD's rural estate lies within National Park boundaries, so the department must be sensitive to the characteristics for which the designation was applied, and the needs of other people who wish to appreciate their beauty and peacefulness. National Parks should also deliver sustainable social and economic as well as natural environments, and MOD contributes to employment and investment in such areas.
- K6. The 41 Areas of Outstanding Natural Beauty (AONB) in England, N. Ireland and Wales are smaller, nationally important areas that are also designated for their natural beauty under the National Parks and Access to the Countryside Act 1949. (Scotland has 40 National Scenic Areas safeguarded under SDD Circulars 20/1980 and 9/1987). Many rural training areas lie wholly or partly within AONBs. Landscape value is also recognised in Local Planning Authority designations such as Areas of Great Landscape Value or Regional Scenic Areas, although these carry less weight than national designations.

- K7. Archaeological heritage plays a major role in landscape definition, both in terms of how development has shaped the landscape over the centuries, and the character and relief created by field systems, routeways, abandoned settlements and burial features. Ancient features may be protected as Scheduled Ancient Monuments under the Ancient Monuments and Archaeological Areas Act 1979 and protected under Planning policy.
- K8. The term ‘townscapes’ encompasses settlements from hamlets through to cities. Townscapes and built areas that have high aesthetic and cultural value may be designated as Conservation Areas, and individual buildings may be given Listed Building status. Both categories are protected by the Planning (Listed Buildings and Conservation Areas) Act 1990.
- K9. Sites with natural, cultural, archaeological or industrial heritage of outstanding universal value may be accorded World Heritage Site status under the World Heritage Convention, adopted by UNESCO in 1972.
- K10. Coastal landscape management is complex because of the dynamic interaction between land and marine processes. However, coastal management and development should be sensitive to coastal landforms and minimise degradation of appealing coasts and seascapes.
- K11. The MOD Estate Strategy, *In Trust and on Trust* (2000) sets out objectives to preserve and enhance landscape and heritage quality on the rural estate, and Sustainability Appraisal (SA) presents an opportunity to build such commitments and targets into the project or proposal from the earliest stages.

## **MOD ACTIVITIES AND IMPACTS**

- K12. Landscape and Townscape issues may become an important part of a Sustainability Appraisal if the following activities are undertaken:
- Removal or replacement of landscape features such as trees, woodlands, hedgerows, stone walls, field systems and water features.
  - Altering the shape of the land surface through digging, quarrying, creating mounds and depressions.
  - Installation or refurbishment of infrastructure such as jetties, runways, masts, pipelines, shelters, fencing, tracks, ranges, red flags and warning lights or security lights.
  - Construction, refurbishment or replacement of buildings.
  - Military training or activity that alters peoples’ perception or enjoyment of the landscape.
- K13. The main contribution that MOD is likely to make towards light pollution is security lighting and permanent illumination of barracks, storage compounds and secure buildings, along with floodlighting around sports pitches and recreation areas. Short-term light disturbances and intrusions may emanate from night training exercises, particularly flashes from firing and use of flares or phosphorus grenades.

## **MITIGATION OR ENHANCEMENT OPPORTUNITIES**

- K14. The following suggestions can help offset some of the potential negative impacts that SA may identify, and provide ideas to enhance a proposal.
- If the SA highlights that landscape issues are significant, the topic should be assessed in more detail. A Landscape Character Assessment provides a description of a landscape, upon which an assessment of likely effects can be undertaken, through a combination of visual impact appraisal and modelling processes.
  - Educate the project team and end-users about landscape issues and promote behavioural changes and mitigation measures to alleviate any negative impacts.

- Develop component management plans for landscape, either independently, or within a site Environmental Management System, Integrated Land Management Plan or Integrated Rural Management Plan if present. Refer to Defence Estates' *Rural Good Practice Guidance Notes*.
- Consult with the Local Planning Authority, National Park or AONB Authority or local landscape trust to explore the interests of others and identify best practice landscape management techniques.
- If new woodlands are required for military training, choose a species mix that reflects the character of local woodlands. However, a balance may have to be struck between landscape interests and the military need for quick growing cover that can sometimes be offered by non-native species.
- Use traditional building materials that reflect those characteristic of the area when replacing or restoring buildings and infrastructure, especially on or near Listed Buildings and Conservation Areas. This helps to ensure that buildings can be successfully accommodated into the landscape. Consult with English Heritage/CADW/Historic Scotland.
- Remove any redundant military buildings or infrastructure where it is necessary to remove eyesores or open out the views (if features do not have cultural value).
- Explore opportunities for mitigating the impacts of developments with earth banks or vegetation, or paints or materials that reduce visual impact. A balance may need to be struck if there is a risk that screening may also provide cover around entry points or sensitive buildings.
- Avoid leaving internal or external lights on unnecessarily.
- Minimise excessive or misdirected outdoor artificial lighting by using lights with directional rather than diffuse beams. Security lights should be angled down and street lights chosen that do not scatter light upwards.

### ILLUSTRATIVE EXAMPLES OF SCORING IN THIS THEME

A	B	C	D	E
Improvement to landscape quality through the removal of abandoned military structures that don't have heritage value	Avoidance of landscape and visual impacts through careful siting, design, screening and lighting of new structures	Temporary changes in tranquility or dark night skies due to construction works or training activities.  Occasional intrusions of military presence	Detrimental change in quality of locally designated landscapes or other land values for its remote or unspoilt nature.  Moderate visual impact of military presence	Detrimental change in quality of nationally designated landscapes.  Severe, longterm visual impact of military presence

#### *Good Practice Case Studies*

Refurbishment or new construction on or adjacent to historic buildings requires sensitive design to ensure the new structures do not detract from the attractiveness of the old. Successful MOD examples include the extension to the Armed Forces Chaplaincy Centre at Amport House (which complements and enhances the house and garden) and the modern college buildings at JSCSC Shrivenham (which have been sited out of view of the listed buildings).

## CONTACTS

### **Internal**

- Defence Estates Environmental Support Team Landscape focal point, Westdown Camp – Tel: 01980 674870
- Defence Estates Environmental Support Team, Sustainability Advisory Team (EST SAT), Durrington, moving to Westdown Camp.
- Defence Estates Estate Strategy and Policy Team (Sustainability) (Rural), Foxhill, Bath.

### **External**

- Association of National Park Authorities – [www.anpa.gov.uk](http://www.anpa.gov.uk) – 029 2049 9966.
- Council for the Protection of Rural England (CPRE) – [www.cpre.org.uk](http://www.cpre.org.uk) – 020 7976 6433.
- Countryside Agency (Statutory Body for rural/countryside issues) – [www.countryside.gov.uk](http://www.countryside.gov.uk) – 0124 252 1381.
- Countryside Council for Wales (Welsh Statutory Body) – [www.ccw.gov.uk](http://www.ccw.gov.uk) – 0845 1306229.
- Environment and Heritage Service Northern Ireland (Northern Ireland Statutory Body) – [www.ehsni.gov.uk](http://www.ehsni.gov.uk)
- Institution for Lighting Engineers – [www.ile.org.uk](http://www.ile.org.uk) – 01788 540145.
- Local Authority Landscape Officers.
- Scottish Natural Heritage (Scottish Statutory Body) – [www.snh.org.uk](http://www.snh.org.uk) – 0131 447 4784.
- See list of contacts in Theme J (Archaeology and Cultural Heritage) for the Statutory Bodies for Built Heritage.

## INFORMATION AND REFERENCES

- Countryside Agency and Scottish Natural Heritage: 2002: *Landscape Character Assessment Guidance for England and Scotland* – [www.countryside.gov.uk/cc/guidance/main/content.htm](http://www.countryside.gov.uk/cc/guidance/main/content.htm)
- Countryside Agency: 2000: *Design of Rural Workplace Buildings*.
- Countryside Agency: 1999: *Designed and Defined Interests Map*.
- Countryside Agency: 1998/9: *Countryside Character: Regional Volumes*.
- Defence Estates: 2003: Rural Good Practice Guidance Notes (Volume One – *Landscape Protection and Enhancement*).
- Defence Estates: 2001: *In Trust and On Trust* (Strategy for the Defence Estate).
- Landscape Institute and Institute of Environmental Management and Assessment: 2002: *Guidelines for Landscape and Visual Impact Assessment* (2nd edition).
- ODPM: 1997: Planning Policy Guidance Note 7: *The Countryside – Environmental Quality and Economic and Social Development*.
- ODPM: 1994: Planning Policy Guidance Note 15: *Planning and the Historic Environment*.

### CHECKLIST FOR THEME K: LANDSCAPE AND TOWNSCAPE

Overall objective: *Protect and enhance the character and appeal of landscapes and townscapes.*

POTENTIAL ISSUES	IMPACT				COMMENTS ON IMPACT	ACTION REQUIRED
	n/a	+ve	no	-ve		
Change in activity in National Parks, AONBs, National Scenic Areas, Conservation Areas						
Change in land management regime (e.g. tree planting, agriculture)						
Construction of new buildings, engineering works or training features						
Potential removal of landscape features e.g. walls, hedgerows, woodland, vernacular buildings, landforms						
Change in the lighting of buildings or sites						
Acquisition or disposal of sites with landscape or townscape value						
Change in intensity of use of rural areas, affecting tranquillity or 'wilderness'						
Other landscape and townscape issues						

**STAKEHOLDERS CONSULTED AND REFERENCES USED**

**SUSTAINABILITY SCORE FOR THIS THEME**

A	B	C	D	E

**PRIORITY ACTIONS AND RESOURCES REQUIRED**



## THEME L: HEALTH, SAFETY AND CRIME

### *Sustainability Objectives*

- To reduce crime and the fear of crime;
- To promote better health and healthcare provision;
- To reduce the incidence of work days lost due to illness, injury and fatality;
- To reduce work-related stress, excessive hours and improve the work/life balance.

### WHY THIS THEME IS IMPORTANT TO MOD

- L1. Health, safety and crime are important issues for MOD due to a combination of legislative requirements, the moral responsibility to its employees and the cost implications of accidents. The Department and estate have characteristics that are not often found in the private or wider public sector. It is MOD policy to: *“protect the health, safety and welfare of all members of HM Forces, civilian employees of the Ministry and other persons who may be affected by the Ministry’s activities”*. Secretary of State, July 2000.
- L2. Health, safety and crime contribute to, or substantially degrade, quality of life – which is one of the foundations of sustainability. Illness, injury, stress and crime can all induce negative feelings and contribute to significant losses in productivity in the workplace, as well as in recreational and family contexts. The Human Rights Act 1998 makes a Statutory provision for citizens to enjoy a right to life, liberty and security, protection from violence, respect for privacy and peaceful enjoyment of possessions and protection of property.
- L3. As a Government department, the MOD must comply with UK legislation and policy that support objectives to promote health and safety and reduce crime. It is Government policy that Health and Safety appraisals are undertaken on new policies, a practice likely to filter into lower tiers of decision-making.
- L4. The primary piece of legislation is the Health and Safety at Work Act (1974) (along with the Health and Safety at Work (Northern Ireland) Order 1978), which ensures that employers must take reasonable steps to ensure the health, safety and welfare of their employees at work. The Government’s Revitalising Health and Safety strategy (DETR/HSC 2000) summarises the main UK policy directions and objectives.
- L5. The Fire Precautions Act 1971 is in place to ensure provisions to protect persons from fire risk, and the Act is updated by the Fire Precautions (Workplace) (Amendment) Regulations 1999.
- L6. Other relevant, but not exhaustive, Health and Safety Regulations include:
- Management of Health and Safety at Work Regulations 1999, promoting risk assessments of activities that could affect employees and others;
  - Workplace (Health, Safety and Welfare) Regulations 1992, dealing with maintenance of premises;
  - Provision and Use of The Work Equipment Regulations 1992, dealing with guarding of dangerous machines;
  - Manual Handling Operations Regulations 1992, dealing with handling (e.g. lifting and carrying) of equipment, stocks and materials;
  - Personal Protective Equipment Work Regulations 1992, dealing with the introduction of protective clothing;
  - The Health and Safety (Display Screen Equipment) Regulations 1992, to prevent repetitive strain or other musculo-skeletal injury and eye problems during use of IT and related equipment;

- Working Time Directive and Working Time Regulations 1998, regulating numbers of hours worked and imposing the need for breaks;
- The Construction (Design and Management) Regulations 1994;
- The Construction (Health, Safety and Welfare) Regulations 1996;
- Electricity at Work Regulations 1989, for risks involving electricity;
- Health and Safety (First Aid) Regulations 1981, where employers must make adequate provision for first aid;
- Noise at Work Regulations 1989, to minimise risk of damage to hearing from noisy activities.

L7. The Government's *Revitalising Health and Safety* agenda has set targets to:

- Reduce the incidence of work-related ill health by 20% by 2010;
- Reduce numbers of working days lost through ill-health by 30% by 2010;
- Reduce the incidence of fatalities and minor injuries by 10% by 2010.

Sustainability Appraisal (SA) presents an opportunity to build commitments and targets into a new project or proposal from an early stage.

## MOD ACTIVITIES AND IMPACTS

L8. MOD undertakes many activities that could have health, safety and crime implications, in relation both to its own staff and personnel, and to the wider community. The table below illustrates some of the main areas of impact.

	IMPACTS WITHIN MOD	WIDER IMPACTS
HEALTH	<ul style="list-style-type: none"> <li>• <i>Change of working practices</i> – long hours, stress.</li> <li>• <i>Building design</i> – optimise ventilation, lighting and minimise materials that potentially cause sick building syndrome.</li> <li>• <i>New operations and training</i> – post-traumatic stress disorder, fatigue, noise.</li> <li>• <i>New 'industrial' processes</i> – exposure to hazardous materials and waste.</li> <li>• <i>Procurement e.g. food and clothing</i> – ensure dietary needs and protection from elements/ hazards are met.</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Operations and training</i> – Noise, NBC/dust dispersion.</li> <li>• <i>New 'industrial' processes</i> – emissions, discharges and noise.</li> </ul>
SAFETY	<ul style="list-style-type: none"> <li>• <i>Operations and training</i> – night manoeuvring, vehicles, trips, falls, equipment, explosives.</li> <li>• <i>Construction, refurbishment, demolition</i> – vehicles and plant, scaffolding and ladders, lifting objects.</li> <li>• <i>New office arrangements</i> – DSE, and resulting musculo-skeletal injury, trip hazards, electrics.</li> <li>• <i>Equipment procurement</i> – new equipment poses new hazards and training requirements.</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Operations and training</i> – equipment and vehicles on roads, public on training areas.</li> <li>• <i>Construction</i> – heavy vehicles on roads.</li> </ul>
CRIME	<ul style="list-style-type: none"> <li>• <i>Estate and building design and layout</i> – check for 'dead' spaces and security/terrorism threats.</li> <li>• <i>Construction</i> – careful choice of materials and adequate locks etc.</li> <li>• <i>Hiring new staff/contractors</i> – check systems and history.</li> <li>• <i>New contracting methods e.g. single PFI/Prime Contracts</i> – change in likelihood of fraud.</li> </ul>	<ul style="list-style-type: none"> <li>• <i>New influx of personnel</i> – may cause damage or disturbance in local communities.</li> </ul>

## MITIGATION OR ENHANCEMENT OPPORTUNITIES

- L9. The following suggestions can help offset some of the potential negative impacts and risks that a Sustainability Appraisal may identify, and provide ideas to enhance a proposal.
- Undertake further assessments (for example risk assessments) to evaluate potentially significant health, safety or crime impacts of the proposal.
  - Educate the project team and end-users about health, safety and security issues and promote behavioural changes and mitigation procedures to minimise negative aspects.
  - Utilise the range of Standard Operating Procedures, Codes of Practice and management systems for maintaining safety and security.
  - Ensure employees, users and other relevant parties are fully trained to operate new equipment and understand the safety procedures in new buildings and sites.
  - Utilise initiatives such as the *Secured by Design* tools to ensure buildings and materials are designed to British Standard for crime prevention, and that sites are laid out with minimal 'dead' spaces.

## ILLUSTRATIVE EXAMPLES OF SCORING IN THIS THEME

A	B	C	D	E
Removal of activities, substances or structures that have a risk of injury and ill health or provide opportunities for crime	Technology, procedures and education in place to minimise risks health, safety and crime risks	Occasional, local fluctuation in number of cases of ill health, injury or crime	Increase in risk of injury and ill health.  Moderate increase in potential for crime	Increase in risk of death, severe injury or ill health

### *Good Practice Case Studies*

MOD Police have contributed to development of the Association of Chief Police Officers' Secured by Design scheme (sponsored by the Building Research Establishment). The Scheme entails assessing crime risks of building and estate designs, and incorporating technology and performance standards (e.g. minimise 'dead' ground and escape routes, promote secure fastenings and materials).

## CONTACTS

### *Internal*

- MOD D SEF Pol for Departmental Health and Safety policy advice, St Giles Court, London.
- CESOs and Regional or Establishment Health and Safety Officers.
- MOD Police, Royal Military Police, MOD Guard Service.

### *External*

- Health and Safety Executive (HSE) – [www.hse.gov.uk](http://www.hse.gov.uk) – Tel: 08701 545500.
- Home Office Crime Reduction Centre (Government/national source of crime reduction advice – [www.crimereduction.gov.uk](http://www.crimereduction.gov.uk) – Tel: 020 7273 4000.
- Royal Society for the Prevention of Accidents (RoSPA) – [www.rospace.org.uk](http://www.rospace.org.uk) – Tel: 0121 248 2000.

## INFORMATION AND REFERENCES

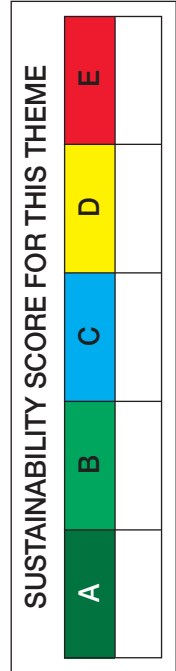
- Association of Chief Police Officers Crime Prevention Initiative (ACPO CPI): *Secured by Design*. – [www.securedbydesign.com](http://www.securedbydesign.com)
- Building Research Establishment (Knights, B; Pascoe, T; Henschley, A): 2002: *Sustainability and Crime*.
- Defence Estates: 2001: *In Trust and On Trust* (Strategy for the Defence Estate).
- DETR/Health and Safety Commission: 2000: *Revitalising Health and Safety*.
- MOD: 2000: *The Management of Safety and Environmental Protection in the Ministry of Defence* (MOD policy statement).
- MOD JSP 375: *Health and Safety Handbook*.
- MOD JSP 392: *Instructions for Radiological Protection*.
- MOD JSP 426: *MOD Fire Safety Policy*.

**CHECKLIST FOR THEME L: HEALTH, SAFETY AND CRIME**

Overall objective: *Maximise opportunities to promote healthy, safe and secure environments in which to live and work.*

POTENTIAL ISSUES	IMPACT				COMMENTS ON IMPACT	ACTION REQUIRED
	n/a	+ve	no	-ve		
Change to building or interior layout that could pose crime risks or safety hazards						
Change in equipment used that could pose health, safety or crime risks						
Change in processes or activities that may pose health, safety or crime risks						
Changes in use or storage of substances that may pose health, safety or crime risk						
Change in staff numbers or workload that may affect health or stress levels						
Influx of new staff that may be unsure of health, safety or security procedures						
Other health, safety or crime issues						

**STAKEHOLDERS CONSULTED AND REFERENCES USED**



**PRIORITY ACTIONS AND RESOURCES REQUIRED**



## THEME M: COMMUNITIES AND SOCIAL VALUES

### *Sustainability Objectives*

- To make it easier for people to become involved in their communities and be recognised as a good neighbour;
- To promote a good quality of life for all those who work and live on the estate;
- To address problems of poverty and social inclusion and promote diversity and equality of opportunity across race, gender, ability, age and religion;
- To promote a collaborative approach to tackle Sustainable Development issues and strengthen their profile within the organisation and the wider community;
- To involve communities in decision-making wherever possible;
- To minimise disruption to communities from development and training activities.

### WHY THIS THEME IS IMPORTANT TO MOD

- M1. Community relationships and social values are important issues for MOD due to a combination of policy requirements and unique characteristics of the Department. MOD is a major employer, with sites and office complexes of all sizes. The organisation has a mix of military and civilian personnel and has many different Directorates, Agencies and commercial partners, so MOD must promote strong internal communities and working relationships.
- M2. The growing agenda of Corporate Social Responsibility is encouraging businesses and the public sector to protect and promote the welfare of people and environments that may be affected by their activities. Initiatives to strengthen community relationships and minimise social exclusion include:
- Ethical investment and procurement;
  - Widespread communication, stakeholder liaison and reporting;
  - Seeking opportunities for education, learning and skill transfer;
  - Community and charitable work;
  - Promoting diversity and equal opportunities, and using information and communication technology to meet the needs of the wide social spectrum;
  - Providing safe and healthy working and living conditions.
- M3. As a Government department, the MOD must comply with UK legislation and policy that support the enhancement of communities and social values. The importance of community welfare is emphasised in the Human Rights Act (1998), which confirms the right to respect for private and family life and the home.
- M4. One of the four pillars of the UK Sustainable Development Strategy, *A Better Quality of Life* (1999), is, *“Social progress which recognises the needs of everyone”*. It is also Government policy to appraise new policies to identify impacts on race equality, gender, disability, children and young people, a practice likely to filter into lower tiers of decision-making.
- M5. To achieve Sustainable Development, it is necessary to put people at the centre of decision-making. A further goal of the UK Sustainable Development Strategy is that, *“opportunities for access to information and participation in decision-making should be available to all”*. The *Modernising Government* initiative promoted increasing openness and transparency in public decision-making. Sustainability Appraisal (SA) can provide a mechanism for such engagement and liaison.

- M6. The new EU Directive for Strategic Environmental Assessment mirrors the aims of SA in considering potential environmental effects at the earliest stages of public plans and programmes. The Directive makes it mandatory to consult with relevant stakeholders during the assessment, and to declare how such consultation has contributed to the decision or proposal.
- M7. Major Government policy statements such as the Transport White Paper 1998, Planning Green Paper 2001 and the Rural White Paper 2001 focussed on meeting and integrating the needs of all stakeholders at both national and local level. Whilst a lot of MOD policies and proposals are focussed on internal changes, they still have local community effects, and large scale defence restructuring proposals are certainly in the interests of the UK public.
- M8. As a Government Department, MOD is expected to comply with Government policy targets for social impacts, as stated in the *Framework for Sustainable Development on the Government Estate* (2002). Targets are to be launched in Summer 2003 and are likely to promote:
- Stakeholder engagement and liaison with local communities;
  - Training and awareness raising on sustainability issues;
  - Guidance on environmental appraisals;
  - Action to integrate Sustainable Development work into associated bodies and the supply chain.
- M9. An aim of the Strategic Defence Review was that people should be given a proper place at the centre of MOD plans. The MOD Estate Strategy, *In Trust and On Trust*, also promotes a good quality of life for those who live and work on the estate, and declares that estate activities will consider the effects on local communities. SA presents an opportunity to build such commitments and targets into new projects or proposals from the earliest stages.
- M10. The Countryside Agency and DEFRA have produced a 'Rural Proofing' checklist to assess specifically how policies and plans would be likely to affect rural communities. The External Relations Unit in DGMO DOMD are also working on a process of Regional Impact Assessment to understand regional patterns in social balance (MOD vs local population) and community interaction.

## **MOD ACTIVITIES AND IMPACTS**

- M11. MOD undertakes many activities that could affect community relationships and social balance. The department employs approximately 350,000 personnel, which constitutes a large and varied internal community. Many of the employees are drawn from the local workforce and the 240,000 hectare estate has many neighbouring populations, so most MOD activities have potential to affect local communities.
- M12. The Strategic Defence Review initiated a move towards combining single service activities into joint tri-service infrastructure. The Core Sites initiative, under the Estate Strategy, is also in place to focus investment on a smaller number of sites. The Services each have strong traditions and the process of collocation may invite cultural sensitivities. There are cultural implications of changing the balance of military and civilian personnel on a site, and as MOD increasingly enters into commercial partnering arrangements on projects there is a need to build relationships with private sector personnel.
- M13. Expansion of personnel or an influx of new staff onto a site should be accompanied by education about site practices and codes of behaviour where relevant. This is to make personnel aware of their social responsibility within the community and will promote peaceful residence both on and adjacent to the site, and reduce nuisances such as litter, noise and graffiti.
- M14. Shrinkage or disposal of military activities and facilities will also affect wider communities. Impacts include changes in employment profiles and economic revenue and expenditure. A long military presence also creates a structure, culture and identity within a community.

M15. Changes in any activity that produces impacts affecting local communities should be accompanied by a consultation and liaison process. Impacts include:

- Noise;
- Vehicle movements;
- Emission of pollutants and waste;
- Changes to habitats, archaeology and historic buildings;
- Alterations to landscapes and public access or recreational amenities;
- Changes in number of staff and their families.

Each of these themes is covered in more detail elsewhere in this Chapter.

M16. New or revised MOD procurement programmes should consider opportunities to support local communities, skills and economies by using local labour and suppliers as well as national. Ethical investment choices are also recommended and procurers should check that their suppliers and manufacturers have sound employment, diversity and community strategies rather than a 'sweatshop' culture.

M17. It must be remembered that the MOD's primary role is to defend UK communities and way of life. In peacetime, the department undertakes many community-support roles, including:

- Military aid to civil authorities (MACA);
- Crisis management and humanitarian assistance;
- Search and rescue;
- Fisheries protection;
- Counter drugs and terrorism operations;
- Bomb disposal.

The cadet and volunteer reserve forces further integrate the department into society, and projects and proposals that enhance any of these roles should be viewed positively. Relocation of MOD units affects the ability to deliver MACA and these other roles to communities across the regions.

## **MITIGATION OR ENHANCEMENT OPPORTUNITIES**

M18. The following suggestions can help offset some of the potential negative impacts that SA may identify, and provide ideas to enhance a proposal.

- Educate the project team and end-users about the importance of strengthening relationships with local communities and promoting social responsibility.
- Consult with end-users on plans and proposals to promote acceptance and contentment within the military community.
- Consult with local communities on new plans and proposals, either formally, or on an *ad hoc* basis. MOD has Instructions and SOPs for press releases and community liaison.
- Set up focal points or liaison committees for dealing with the public or community representatives (e.g. parish councils), in relation to both day-to-day activities and new proposals.
- Activities that are likely to disturb local communities should be sited as far away from residential areas and sensitive receptors as practicable.

- Develop component management plans for relationships with local communities and estate tenants, either independently, or within a site Environmental Management System, Integrated Land Management Plan or Integrated Rural Management Plan if present. Refer to Defence Estates' *Rural Good Practice Guidance Notes*.

## ILLUSTRATIVE EXAMPLES OF SCORING IN THIS THEME

A	B	C	D	E
Removal of activities that disturb local communities.  Promotion of opportunities to become involved in community projects	Community liaison frameworks in place to cover ongoing and new activities.  Relocation of activities to areas further away from communities	Short-term, minor fluctuations in disturbing activities such as traffic, firing or construction	Procurement of equipment or materials from companies with poor ethical performance record	Long-term installation of disturbing, unsightly or potentially dangerous activities near to communities

### *Good Practice Case Studies*

In 1999, the Prime Minister issued a challenge to increase the number of people in the UK involved in voluntary activities by one million by 2004. The MOD responded to this by developing a Volunteering Strategy. The principle advance was to increase the number of special paid leave days available for volunteering to three per year. Proposals were laid out for building on existing initiatives, forging stronger relationships with other Government Department and Local Authority schemes and developing further outreach programmes, particularly for young people.

## CONTACTS

### *Internal*

- Defence Estates Sustainability Strategy and Policy (R+D) Team, Foxhill, Bath.
- Defence Estates Environmental Support Team, Sustainability Advisory Team (EST SAT), Durrington, moving to Westdown Camp.
- DGMO DOMD External Relations Unit, St Giles Court, London – Tel: 020 7218 9187.

### *External*

- Local Authorities.
- Regional Development Agencies.
- Association of Parish Councils.
- Princes Trust Volunteers – <http://www.princes-trust.org.uk/Support%20Us/giving%20your%20time.asp> – 0800 842 842.

## INFORMATION AND REFERENCES

- DEFRA Local Environmental Quality information resource (litter, graffiti, dog fouling, other nuisances) – [www.defra.gov.uk/environment/localenv/index.htm](http://www.defra.gov.uk/environment/localenv/index.htm)
- ODPM Social Exclusion Unit information resource – [www.socialexclusionunit.gov.uk](http://www.socialexclusionunit.gov.uk) – 020 7944 5550.
- ODPM Neighbourhood Renewal Unit information resource – [www.neighbourhood.gov.uk](http://www.neighbourhood.gov.uk) – 08450 82 83 83.

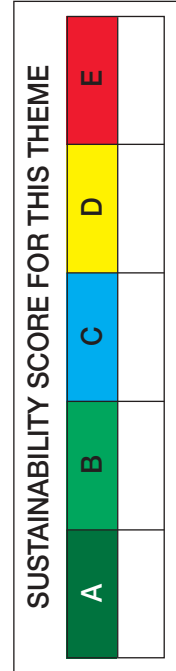
- Defence Estates: 2003: Rural Good Practice Guidance Notes (Volume Five – *Relationships with Local Communities*).
- Defence Estates: 2001: *In Trust and On Trust* (Strategy for the Defence Estate).
- DEFRA: 2001: Rural White Paper *Our countryside: the future – a fair deal for rural England*.
- DETR: 1998: *Planning for the Communities of the Future*.
- DTI Government Corporate Social Responsibility information resource – **[www.societyandbusiness.gov.uk](http://www.societyandbusiness.gov.uk)**
- DTI: 2002: *Business and Society – Corporate Social Responsibility Report 2002*.
- *Framework for Sustainable Development on the Government Estate – Social Impacts* chapter – **[www.sustainable-development.gov.uk/sdig/improving/contexti.htm](http://www.sustainable-development.gov.uk/sdig/improving/contexti.htm)**
- MOD: Volunteering Strategy **<http://personnel.defence.mod.uk/personnel/ptv&ri/strategy.pdf>**
- ODPM: 2003: *Sustainable Communities: Building for the Future*.
- ODPM: 2001: Urban White Paper, *Our towns and cities: the future*.
- ODPM: 1997: Planning Policy Guidance Note 7: The Countryside – *Environmental Quality and Economic and Social Development*.

### CHECKLIST FOR THEME M: COMMUNITIES AND SOCIAL VALUES

Overall objective: *Promote community development and relationships within MOD and with adjacent populations. Involve communities in decision-making and minimise disturbance.*

POTENTIAL ISSUES	IMPACT				COMMENTS ON IMPACT	ACTION REQUIRED
	n/a	+ve	no	-ve		
Change in balance of tri-service or civilian personnel						
Change in level of disturbance (e.g. traffic congestion, construction, vehicle noise, firing) felt by local communities						
Change in opportunity for community consultation on new projects or proposals						
Expansion or shrinkage of military presence in an area						
Change in opportunity for personnel to become involved with community projects						
Procurement of equipment or materials (consider supplier/producer social ethics)						
Other community or social issues						

**STAKEHOLDERS CONSULTED AND REFERENCES USED**



**PRIORITY ACTIONS AND RESOURCES REQUIRED**

## THEME N: INFRASTRUCTURE AND AMENITIES

### *Sustainability Objectives*

- To revitalise degraded infrastructure before attempting new construction and development projects;
- To meet people's social, recreational and cultural needs by providing better housing and access to services and facilities;
- To encourage public access to the MOD estate wherever this can be integrated with safety, operational and conservation considerations.

### WHY THIS THEME IS IMPORTANT TO MOD

- N1. Infrastructure and amenities are important matters for MOD due to a combination of policy requirements and unique characteristics of the Department and its estate. The term *infrastructure and amenities* describes the mechanisms and facilities that physically underpin the smooth running of society's activities and support peoples' social, cultural and recreational needs.
- N2. The MOD Estate Strategy (2000) sets out several objectives to promote the quality of life of all those who live and work on and around or visit the estate. Quality of life is strongly linked to standards of accommodation and infrastructure, as well as opportunities for recreation, culture and lifestyle support. MOD must make sure that its own community of staff is served with adequate facilities, such as:
- Accommodation;
  - Transport infrastructure;
  - Catering outlets;
  - Crèches and families' centres;
  - Entertainment;
  - Sport and fitness;
  - Laundry facilities;
  - Shops and banks.
- N3. One mechanism of integrating the military into local communities is to explore opportunities for the public to share or use MOD facilities where practicable. Such arrangements may include public use of sport facilities, libraries, shops and banks, transport links, recreational access to the rural estate and enjoyment of heritage. As many MOD attractions lie within popular tourist areas, these principles apply to visitors from further afield as well as local populations.
- N4. As a Government department, the MOD must comply with UK legislation and policy that support objectives to promote provision of and access to infrastructure and amenities. It is Government policy to subject new policies to 'Rural Proofing', to identify potential impacts on economies, communities and infrastructure and opportunities in rural communities.
- N5. The Countryside and Rights of Way Act 2000 includes elements on the 'Right to Roam' i.e. right of access to areas of open countryside. The Land Reform (Scotland) Act 2003 similarly provides a new framework for land ownership and access rights. The MOD also has a Statement of Agreement with Sustrans to explore extension of sections of the National Cycle Network on defence land, as well as policy on other aspects of public access and recreation (JSP 362, Chapter 5).

- N6. As a Government Department, MOD is expected to comply with Government policy targets for social impacts, as stated in the *Framework for Sustainable Development on the Government Estate* (2002). Targets are to be launched in 2003 and are likely to include provision of sports facilities and health campaigns. The Sustainable Development in Government agenda requires Departments to report on the number of empty residential properties, with the aim of bringing empty stock back into general circulation to reduce development pressure on green belt land and increase the availability of affordable homes.
- N7. Sustainability Appraisal (SA) presents an opportunity to build such commitments and targets into a new project or proposal from an early stage.

### **MOD ACTIVITIES AND IMPACTS**

- N8. MOD undertakes numerous activities that could affect the availability of infrastructure and amenities for both its own personnel and their families, and the wider community. If there are plans for a significant expansion of military presence in a town or area, planners need to ensure that local infrastructure can support the enhanced population. This may include road capacity and public transport, schooling, healthcare, sewerage capacity, water and energy supply and entertainment facilities.
- N9. If sites are being disposed of, MOD facilities that the public uses could be lost. Conversely, disposal may release useful facilities back into community, where they can start being enjoyed by the public rather than being out of bounds. For example, it is MOD policy to reinstate Provisional Rights Of Way where possible.
- N10. If there is a change in use of a site or a change in the balance of personnel type (e.g. a change in the percentage of officers or a particular TLB), there may be a need to alter the balance of services, facilities and types of accommodation to suit the requirements of different 'cultures'.
- N11. Changes in contractual arrangements for new capital works or estate services may affect the quality and availability of infrastructure and amenities. The Department increasingly enters into PFI partnerships for the delivery of new facilities, e.g. sporting and educational establishments. Private operation of such facilities may increase the potential for public participation and use. Careful monitoring of new facilities management or estate service contracts will help ensure that availability and standards remain the same or improve.
- N12. Changes in type or intensity of use of rural training areas may alter the availability of public access opportunities. Such changes include an increase in volume of tactical training and open manoeuvring, an increase in firing, or new equipment with larger safety distances.

### **MITIGATION OR ENHANCEMENT OPPORTUNITIES**

The following suggestions can help offset some of the potential negative impacts that a SA may identify, and provide ideas to enhance a proposal.

- Undertake further investigations to identify opportunities or constraints that the proposal may provide in relation to infrastructure and amenities.
- Educate the project team about the interrelationships between and within the military, local communities and visiting tourists in terms of access to recreational, retail, service facilities and other infrastructure.
- Liaise closely with Local Authorities if personnel increases are likely to put pressure on local transport, healthcare, schooling or utility infrastructure.
- Develop component management plans for access and recreation, either independently, or within a site Environmental Management System, Integrated Land Management Plan or Integrated Rural Management Plan if present. Refer to Defence Estates' *Rural Good Practice Guidance Notes*.

- Consider re-routing access provisions if they are to be impacted. Explore options to increase quality, quantity and certainty of access, as long as it does not impact on operational capability or threaten conservation or tenants' interests (e.g. public access, casual use, information provision).

## ILLUSTRATIVE EXAMPLES OF SCORING IN THIS THEME

A	B	C	D	E
Promotion of new public access opportunities on the estate or to buildings	Increased sharing of military facilities by members of the public (e.g. sporting and educational assets)	Short term fluctuations in personnel numbers that temporarily affect level of access to amenities	Removal of opportunities for members of the public to access military amenities, e.g. sports facilities	Large increase in numbers of personnel which puts strain on local healthcare, schooling or transport infrastructure

### *Good Practice Case Studies*

MOD has produced a guidebook, '*Walks on MOD Lands*', which outlines opportunities for walking on the MOD Estate. The booklet was produced in consultation with over 70 external bodies and illustrates walking routes on 14 rural sites, including three with wheelchair access.

Otterburn Training Area have also recruited an Access and Recreation Officer to implement measures that were recommended by the Public Inquiry into development proposals on OTA.

## CONTACTS

### *Internal*

- Defence Estates Sustainability Strategy and Policy (R+D) Team, Foxhill, Bath.
- Defence Estates Environmental Support Team, Access and Recreation Adviser, (Warminster) – Tel: 01985 222913.
- CEStOs and their Establishment Development consultants.

### *External*

- Sustrans – for advice on cycle opportunities and routes (including on areas of the defence estate) – [www.sustrans.org.uk/webcode/home.asp](http://www.sustrans.org.uk/webcode/home.asp) – 0117 929 0888.
- Ramblers Association – [www.ramblers.org.uk/index.html](http://www.ramblers.org.uk/index.html) – 020 7339 8500 (consult through DE).
- Scottish Rights of Way and Access Society – [www.scotways.com](http://www.scotways.com) – 0131 558 1222.
- Local Authorities and Access Fora.

## INFORMATION AND REFERENCES

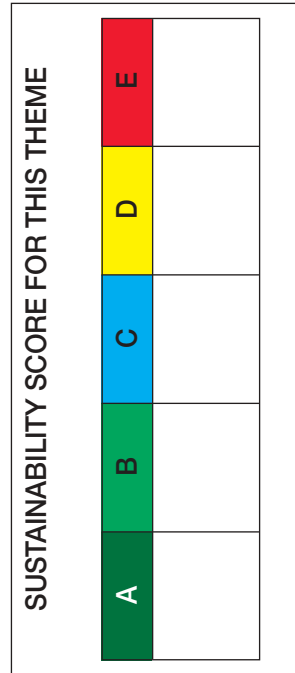
- Defence Estates web information resource – [www.defence-estates.mod.uk/access](http://www.defence-estates.mod.uk/access)
- Defence Estates: 2003: *Rural Good Practice Guidance Notes* (Volume Four – Access and Recreation).
- Defence Estates: 2001: *In Trust and On Trust* (Strategy for the Defence Estate).
- Defence Estates: 2001: *Walks on MOD Lands*.
- DEFRA: 2001: Rural White Paper *Our countryside: the future – a fair deal for rural England*.
- DGCC: *What do you know about... Access to the Defence Estate*.
- ODPM: 2002: Planning Policy Guidance Note 17: *Planning for Open Space, Sport and Recreation*.
- ODPM: 2001: Urban White Paper, *Our towns and cities: the future*.

**CHECKLIST FOR THEME N: INFRASTRUCTURE AND AMENITIES**

Overall objective: *Maximise opportunities for all sectors of the public to use MOD amenities. Minimise disturbance to local populations when using public facilities.*

POTENTIAL ISSUES	IMPACT			COMMENTS ON IMPACT	ACTION REQUIRED
	n/a	+ve	no -ve		
Change in numbers of staff and families requiring public amenities off site					
Change in access to amenities on site by internal staff					
Change in access to amenities on site by the wider public					
Change in opportunity for public access and recreation on the estate					
Change in access and participation available to people with disabilities					
Contractorisation or privatisation of amenities, facilities or services					
Other infrastructure and amenity issues					

**STAKEHOLDERS CONSULTED AND REFERENCES USED**



**PRIORITY ACTIONS AND RESOURCES REQUIRED**

## THEME O: ECONOMY AND EMPLOYMENT

### *Sustainability Objectives*

- To do more with less and make efficient use of resources;
- To promote a stable, diverse and competitive economy, and fair and open trade, whilst respecting the environment;
- Producers, consumers and the supply chain to work together to tackle sustainability challenges;
- To promote local and regional economies;
- To maintain high levels of employment, develop skills and reward work.

### WHY THIS THEME IS IMPORTANT TO MOD

- O1. Economy and Employment are important topics for MOD due to a combination of legislative requirements and unique characteristics of the Department and its activities. Economic interactions arise from the Department's procurement programmes and expenditure by establishments and personnel. MOD is also a major employer (102,000 civilian and 213,000 military) and trainer and therefore contributes to local and regional employment and skill acquisition.
- O2. A prosperous economy is essential for maintaining and improving the quality of peoples' lives. The UK Strategy for Sustainable Development, *A Better Quality of Life*, (1999) promotes *maintenance of high and stable levels of economic growth and employment*, with better regard for resource use and the well-being of employees.
- O3. Whilst the UK has enjoyed relatively strong economic growth overall, there are considerable differences between sectors and regions. For example, while construction and service industries are experiencing growth, manufacturing and agriculture are declining. Regionally, wealth and economic growth is generally stronger in the Southeast than in the West Midlands and parts of the North, the former heartlands of industrial activity. Even within regions, economic activity tends to be strongest near to the larger centres.
- O4. These inequalities present a major challenge, as successful economic activity tends to attract much of the same, while a depressed area or industry can descend into a downward spiral of lack of investment and further decline. Government incentives such as tax assistance, development grants, and decentralisation of its own Departmental operations are helping to boost employment and revenue in economically disadvantaged areas.
- O5. MOD is a significant player in the national economy in its own right, with an annual budget of around £24 billion. The department employs some 180,000 military personnel and 120,000 civilians, plus directly employed labour and contracted services such as catering and cleaning. Expenditure on works, buildings, land and services in 2000-2001 approached £5 billion, representing a huge investment in construction, manufactured goods, consumables and related employment.
- O6. The presence of an MOD site has an indirect, 'multiplier' economic effect. Expansion of a facility will generate increased demand for a wide range of commercial services, e.g. groceries, transport, vehicle servicing, household equipment and leisure facilities, who place extra demand on their suppliers. The MOD External Relations Unit in DGMO DOMD currently uses an employment multiplier of 1.35 as a guide for predicting this impact. For example, an increase of 100 MOD personnel would be expected to generate a further 35 jobs in the local economy (with equivalent loss if MOD removes 100 people).

- O7. Employment is the single most effective and sustainable way to tackle deprivation and social exclusion, as work enables people to meet their needs, improve their living standards and self-esteem and enjoy a better quality of life. Indirectly, the economy of the area also benefits as more people earn and re-circulate cash. However, sustainable economic growth needs to reach all sectors, not just a few large or centralised suppliers or giant corporations. A key factor of a sustainable economy is variety, with opportunities for small, medium and specialist businesses and a vibrant trade in local products and skills.
- O8. Employment opportunities should be available to all sectors of society, as should the educational opportunities that increase people's ability to obtain employment. MOD furnishes its own Service, civilian, full-time, part-time, reserve and cadet personnel with a wide range of military and vocational skills. The Department also undertakes numerous public relations initiatives to both boost recruitment and educate the public on the role and activities of its Armed Forces.
- O9. As a Government department, the MOD must comply with UK legislation and policy that support objectives to promote sustainable economies and employment. All departments should subject new policies to Rural Proofing and Regulatory Impact Assessments, to identify potential impacts on rural communities and small or voluntary enterprises respectively.
- O10. Government *Framework for Sustainable Development on the Government Estate* targets for economy and employment are still under development but are likely to include:
- Choosing suppliers in a manner that supports small businesses and local or rural economies;
  - Promoting flexible working hours, home-working and a good work/life balance;
  - Increasing the availability of information to staff;
  - Promoting staff satisfaction and quality of life in the workplace.
- O11. The MOD Estate Strategy, *In Trust and On Trust* (2000) emphasises that the Department is "very conscious of the effect that closure, relocation or expansion of defence activities can have on employment, the local economy, schools and health services", and the MOD is committed to ensuring that potential impacts on jobs, investment and quality of life are accounted for in decision-making. The External Relations Unit holds a great deal of social and economic data and are working on a process of Regional Impact Assessment to gain an understanding of regional patterns in MOD presence and expenditure.
- O12. MOD Personnel Manual (Volume 13, Chapter 2) outlines MOD policy on Equal Opportunities and Diversity. The department must also meet Governmental and legal obligations under the:
- Sex Discrimination Act (1975) and Sex Discrimination (Northern Ireland) Order 1976);
  - Race Relations Act (1976, amended 2000) and Race Relations (Northern Ireland) Order (1997);
  - Disability Discrimination Act (1995) (GB and Northern Ireland);
  - Equal Pay Act (1970);
  - Fair Employment (Northern Ireland) Acts (1997 and 1989).
- O13. Sustainability Appraisal (SA) presents an opportunity to build such commitments and targets into a new project or proposal from the earliest stages. SA may also run in parallel with Investment and Economic Appraisals (described in JSP 507), as the sustainability implications of different options should be factored into overall project cost estimates.

## MOD ACTIVITIES AND IMPACTS

- O14. MOD undertakes numerous activities that could affect the economy and employment patterns in an area. The sheer presence of an MOD facility necessitates employment of staff and procurement of services and materials, so disposal or shrinkage of MOD presence may mean a loss of revenue in the area and a loss of jobs. Conversely, loss of MOD from a site may enable the influx of genuine economic activities such as industry, retail, entertainment or offices.
- O15. Expansion of MOD presence in an area should therefore provide an opportunity for investment in a local economy and creation of jobs. The balance and accessibility of jobs is an important issue. Will jobs be filled by new local people, existing local MOD staff or by importing military and other staff from elsewhere? Are there opportunities for jobs (in MOD or the locality) for dependants? Will the job profile be dominated by senior personnel, lower grades, skilled or unskilled?
- O16. New MOD procurement, whether large equipment or day-to-day consumables should strike a balance between using a variety of local suppliers as well as large national companies or consortia. Procurers should consider the environmental and social record of their suppliers and their supply chain, and adopt the principles of ethical trading where practicable.
- O17. New MOD construction, infrastructure, engineering and maintenance projects require procurement of supplies and labour, and if local skills and materials are available, then their utilisation is often more sustainable than large national consortia or suppliers.
- O18. MOD delivers several activities and areas of work by commissioning contracted-out services and consultancy. When embarking on such routes, the effects on existing staff should be considered. Involvement of consultants can deprive internal staff of opportunities to gain experience and learning so opportunities for skill transfer should be encouraged. Engagement with the private sector in long-term Partnering projects may also alter opportunities for apprenticeships, wider work experience and learning.
- O19. New training facilities and initiatives may incorporate objectives to involve as wide a stream of people as possible, especially if there is spare capacity in training provision. Encourage staff to obtain qualifications and develop new skills. Any new MOD development in an area should be viewed as an opportunity to strengthen relationships with the local community and liaise and educate people about military roles and activities.
- O20. Disposal or changes in use of rural training areas should account for potential economic effects on estate tenants, for example farmers and foresters and other users (e.g. riding schools that use MOD bridleways and byways). New levels of disturbance may effect the level of income that they generate, or may influence the level of rent that they pay.

## MITIGATION OR ENHANCEMENT OPPORTUNITIES

The following suggestions can help offset some of the potential negative impacts that a Sustainability Appraisal may identify, and provide ideas to enhance a proposal.

- Undertake further study into how the proposal may affect the balance of suppliers, customers, employees and stakeholders.
- Educate the project team and end-users about the value of promoting a diverse, thriving local economy and providing opportunities for a wide range of people and communities to become involved. Promote behavioural changes and mitigation measures if there are likely to be negative aspects.
- Liaise closely with local authorities and communities over plans for MOD expansion or shrinkage. This will boost understanding of whether MOD presence is supporting an otherwise stagnant economy, or whether the presence is stifling other potentially vibrant growth.
- Procure materials from ethical and sustainable sources.

- Early investment in sustainability appraisal, environmentally efficient technology and careful management of people can reap considerable long-term benefits and cost-savings over the life of the building/equipment.
- Promote a diverse local economy by procuring skills and materials locally.
- Identify opportunities for skill development and transfer, from discrete projects or experiences to longer-term secondments and apprenticeships.

### ILLUSTRATIVE EXAMPLES OF SCORING IN THIS THEME

A	B	C	D	E
Creation of significant numbers of local jobs, or procurement of materials and equipment from local small businesses	Opportunities sought to promote skill transfer both internally and in relationships with contractors and industry	Temporary fluctuations in number of personnel on site, leading to variations in local expenditure	Loss of civilian jobs from a site, perhaps to be replaced by military personnel from elsewhere	Significant withdrawal from an area leading to major loss of jobs and wider economic revenue

#### *Good Practice Case Studies*

The MOD Skill Force Initiative was launched to provide 14 to 16 year olds, who had been excluded or were disenfranchised with the school system, with an opportunity to gain valuable life skills and improve employment prospects. Over 1,200 participants have taken 1 to 2 days out from their school week to work with former officers on areas such as team-building, respect, communication, planning and problem-solving. The scheme is not intended to be a recruitment exercise, but may raise the profile of the Armed Forces as an option for youngsters.

### CONTACTS

#### *Internal*

- Defence Estates Sustainability Strategy and Policy (R+D) Team, Foxhill, Bath.
- Defence Estates Environmental Support Team, Sustainability Advisory Team (EST SAT), Durrington, moving to Westdown Camp.
- DGMO DOMD External Relations Unit, St Giles Court, London – Tel: 020 7218 9181.
- CESTOs and their Establishment Development consultants.

#### *External*

- Department for Education and Skills – [www.dfes.gov.uk/index.htm](http://www.dfes.gov.uk/index.htm)
- Department of Trade and Industry – [www.dti.gov.uk](http://www.dti.gov.uk)
- Office of Government Commerce – [www.ogc.gov.uk](http://www.ogc.gov.uk)
- Local Authority Planning and Economic Development units.

## INFORMATION AND REFERENCES

- *Framework for Sustainable Development on the Government Estate* – Social Impacts chapter – [www.sustainable-development.gov.uk/sdig/improving/contexti.htm](http://www.sustainable-development.gov.uk/sdig/improving/contexti.htm)
- Defence Estates: 2003: Rural Good Practice Guidance Notes (Volume Five – *Relationships with Agricultural and Other Tenants*).
- DEFRA: 2001: Rural White Paper – *Our countryside: the future – a fair deal for rural England*.
- MOD JSP 507: *MOD Guide to Investment Appraisal and Evaluation*.
- ODPM: 2001: Urban White Paper – *Our towns and cities: the future*.
- ODPM: 1997: Planning Policy Guidance Note 7: *The Countryside – Environmental Quality and Economic and Social Development*.

## CHECKLIST FOR THEME O: ECONOMY AND EMPLOYMENT

Overall objective: *Maintain and encourage a diverse and thriving economy, particularly at local and regional level.*

POTENTIAL ISSUES	IMPACT				COMMENTS ON IMPACT	ACTION REQUIRED
	n/a	+ve	no	-ve		
Change in number of Military or civilian jobs in an area (or change in grade profile)						
Change in numbers of people (who may spend money locally) based in an area						
Change in amount of equipment or materials procured						
Change in opportunity to procure materials or services locally						
Change in opportunity to enhance the skills of staff or wider communities						
Change in training activity or land use that may alter livelihood of estate tenants or other commercial users of the estate						
Other economy and employment issues						

STAKEHOLDERS CONSULTED  
AND REFERENCES USED

SUSTAINABILITY SCORE FOR THIS THEME				
A	B	C	D	E

PRIORITY ACTIONS AND  
RESOURCES REQUIRED

# EVALUATION OF REQUIREMENT FOR STATUTORY ASSESSMENTS

Do the following apply to the project or proposal?	Yes/No
Will your proposal or project subject to Planning approval under either the NOPD (Circular 18/84) or conventional Planning process?	
Have you consulted with the Local Planning Authority (which may be the National Park Authority in designated areas)?	

## ENVIRONMENTAL IMPACT ASSESSMENT

See Chapter Nine for full information on legislation and requirements

Do the following regulations apply to the project or proposal?	Yes/No
Town and Country Planning (EIA) Regulations 1999 (Schedule 1 or Schedule 2 developments)	
Environmental Impact Assessment (Uncultivated Land and Semi-Natural Areas) Regulations 2001	
Environmental Impact Assessment (Forestry) Regulations	
Environmental Impact Assessment (Land Drainage Improvement Works) Regulations 1999	
Harbour Works (Environmental Impact Assessment) Regulations 1999	
Environment Act 1995 – National Parks EIA requirements under Circular 12/96	
Other EIA Regulations	

## APPROPRIATE ASSESSMENT

See Chapter Ten for full information on legislation and requirements

Do the following apply to the project or proposal?	Yes/No
Likely to have a significant effect on a Special Area of Conservation (under EU Habitats and Species Directive)	
Likely to have a significant effect on a Special Protection Area for Birds (under EU Birds Directive)	
Likely to have a significant effect on a Ramsar site of International Wetland Importance (Ramsar Convention, Planning Policy)	
Have you consulted (via Defence Estates) with the relevant Statutory Body? (English Nature, Countryside Council for Wales, Scottish Natural Heritage, Environment and Heritage Service NI)	

## ARCHAEOLOGICAL EVALUATION

See Guidance Note for Theme J in Chapter Six for full policy and requirements.

Do the following apply to the project or proposal?	Yes/No
Planning Policy Guidance 15 and 16, requiring archaeological evaluation before planning approval is granted	
Have you consulted (via Defence Estates) the County Archaeologist or relevant Statutory Body (English Heritage, CADW, Historic Scotland, Environment and Heritage Service NI)	

## SUSTAINABILITY APPRAISAL MATRIX

THEME AND OBJECTIVES	SCORE						COMMENTARY	ACTION REQUIRED
	n/a	A	B	C	D	E		
<b>A – Climate Change and Air Quality</b> Minimise greenhouse gas emissions and pollution of air with gases and particulates.								
<b>B – Travel and Transport</b> Minimise amount of travelling required, particularly via roads and private cars.								
<b>C – Energy Consumption</b> Minimise total energy consumption and support the use of renewable energy rather than fossil fuel sources.								
<b>D – Noise and Vibration</b> Minimise disturbance to people and wildlife from noise and vibration.								
<b>E – Water and Drainage</b> Reduce total water consumption and minimise risks of water pollution and flooding.								

THEME AND OBJECTIVES	SCORE						COMMENTARY	ACTION REQUIRED
	n/a	A	B	C	D	E		
<b>F – Waste</b> Reduce waste production and promote reuse, recovery and recycling.								
<b>G – Land, Buildings and Construction Materials</b> Minimise expansion onto 'green' sites and explore refurbishment before building afresh, design sustainability features into new facilities and promote recycling of materials.								
<b>H – Geology and Soils</b> Minimise loss and disturbance of soil and substrates. Minimise soil contamination risks and remediate previously degraded land.								
<b>I – Biodiversity and Nature Conservation</b> Seek to protect habitats and species and promote opportunities to enhance and conserve wildlife.								
<b>J – Archaeology and Historic Environment</b> Protect and enhance features of archaeological interest, the historic environment and cultural heritage.								

THEME AND OBJECTIVES	SCORE						COMMENTARY	ACTION REQUIRED
	n/a	A	B	C	D	E		
<b>K – Landscape and Townscape</b> Protect and enhance the character and appeal of landscapes and townscapes.								
<b>L – Health, Safety and Crime</b> Maximise opportunities to promote healthy, safe and secure environments in which to live and work.								
<b>M – Communities and Social Values</b> Promote community development and relationships within MOD, and with adjacent populations. Involve communities in decision-making and minimise disturbance.								
<b>N – Infrastructure and Amenities</b> Maximise opportunities for all sectors of the public to use MOD amenities. Minimise disturbance to local populations when using public facilities.								
<b>O – Economy and Employment</b> Maintain and encourage a diverse and thriving economy, particularly at local and regional level.								
Is there a requirement for Statutory Assessment?	EIA		Appropriate Assessment		Archaeological Evaluation			



# CHAPTER 7: WORKED EXAMPLE

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## 7.1 INTRODUCTION

This is a FICTITIOUS worked example that has been developed to illustrate the Sustainability Appraisal process and the level of detail that might be expected. Chapter Five gives guidance on how to follow the appraisal process, use the checklists and structure the report, and this example is designed to make the process more tangible.

The example chosen is the development of new kitchen and dining facilities at a MOD management and competence training college in Hampshire. This chapter presents a sample SA report, with a summary outlining the project description, main impacts and actions required, with the supporting checklists and matrix.





SPANGLEY TRAINING COLLEGE

**SUSTAINABILITY APPRAISAL**  
of proposals for a new  
**KITCHEN AND DINING FACILITY,**  
  
**Spangley Training College, Hampshire**

Project Reference Number	SC 78341
Project Sponsor	Mrs Tinker, Head of Spangley Catering Team
Project Manager	Mr Taylor, Spangley Catering Team
Budget Holder	Miss Soldier - Spangley Finance Unit
Responsibility for Appraisal	Mr Saylor, Deputy Project Manager
Appraisal undertaken by	Mr Richman and Miss Poore, Kitchen Project Team
Date of Appraisal	September 2003



## **SUSTAINABILITY APPRAISAL REPORT FOR PROPOSED NEW KITCHEN AND DINING FACILITIES AT SPANGLEY COLLEGE, HAMPSHIRE.**

Appraised by Mr Richman and Miss Poore, Kitchen Project Team.

### **Introduction to the site**

Spangley College is a MOD management and competence training college offering residential and day courses to staff across all TLBs, both military and civilian. The campus sits in extensive parkland, adjacent to the small town of Spangley, Hampshire.

The college is built around a core of a Victorian country house (now a Mess and conference centre) and associated outbuildings, all of which were sensitively refurbished five years ago to reflect their Listed status. The peripheral buildings (classrooms and accommodation) date from the 1960s and the surrounding parkland was landscaped in Victorian times, although the woodlands and lake support a variety of birds and other garden wildlife.

There are good transport links to the site, being close to the Salisbury-London rail line and the A303, and the college serves MOD staff across the Southwest region.

### **Map of site**

(A location map or diagram would normally be provided)

### **The existing catering facilities**

The site is presently served by three kitchens and dining rooms, all of which are in need of refurbishment. The Pay As You Dine (PAYD) initiative has also prompted reconsideration of how meals are provided.

Officers dine in an oak-panelled room in the Mess section of the Victorian house. The adjacent kitchen's appliances are old and unreliable and the utility infrastructure to the kitchen (water and gas pipes and electric cabling) will shortly need refurbishing.

Junior ranks eat in a purpose built 1960s dining block, although the thin walled structure does not retain heat well and there have been problems with a leaky roof and crumbling window frames. The kitchen appliances are also due for replacement.

Civilians and staff eat in a separate canteen within one of the classroom blocks. The canteen and its small kitchen are only ten years old, but struggle to supply the demand created since the recent introduction of extra civilian courses.

Existing staff are employed by MOD in the Junior Ranks and Officers' kitchens but are employed by a contractor in the civilian/staff canteen.

### **The proposed kitchen and dining area redevelopment**

The project proposes to close down the existing kitchen and catering facilities and replace them with a purpose built building containing one main kitchen and a series of dining areas. The main dining room will be open to all ranks and personnel, although separate small dining areas will be provided for officers and staff/civilians should they wish to use them.

The new building will be located at the centre of the campus, near to the main Victorian House, and needs to be large enough to seat up to 800 junior ranks, 600 officers and 1,000 staff/civilians.

The 1960s junior ranks block will be demolished and the Officers dining room and kitchen in the main house will be turned into two further conference rooms. The Staff/civilian canteen in the classroom block will be retained, but service will be scaled down to drinks and light snacks.

Construction and operation of the new catering and dining block will be delivered by Private Finance Initiative, and the project is due to commence in January 2005.

Kitchen staff will be transferred under permanent employment to the PFI contractor, and there will be opportunities for short term employment of construction labour.

### **Site plan showing layout of existing and proposed kitchen and dining facilities.**

(A plan would normally be provided here)

### **How the appraisal was undertaken.**

The appraisal was prepared and undertaken by two project staff, Mr Richman and Miss Poore, who held a mini-workshop with the local estate adviser and a member of DE EST SAT. The two appraisers undertook further research, enquiries and writing up, before sending the report for review by DE EST SAT and presenting it to the Project Manager.

People consulted prior to the appraisal included:

- Local Planning Authority representative. Representative confirmed there were no other major construction projects locally at that time so cumulative impacts will not be significant. Planning consent would be needed for the proposed new build, but the project does not fall under statutory EIA regulations and LPA is content with a Sustainability Appraisal, and follow up work if necessary.
- Parish council representative. There had been unease in Spangley about traffic and construction impacts when the site grew in the 1960s, but this project will not entail extra traffic and the community are happy, as long as construction environmental impacts are minimised.
- County Archaeologist - who thought it unlikely that there will be buried archaeology, but recommended liaison with English Heritage on design and layout near the listed Victorian house.
- Head of Establishment. Provided a general overview of development and known constraints at the site, but no other projects are planned in the foreseeable future.

### **Main positive and negative sustainability issues**

The main positive sustainability impacts of the project are:

- Energy and water efficiencies. The project will be replacing old, inefficient infrastructure, and there are economies of scale in supplying one big facility rather than a number of smaller facilities;
- Better social integration amongst all sections of the community on site;
- Security of existing jobs, with potential for extra staff and a requirement for construction labour.

The main negative sustainability issues for the project are:

- Construction impacts - dust, noise, vibration, waste, sediment in runoff, construction traffic.
- Visual impacts of new building in a Victorian country house setting.
- Potential health and safety risks associated with construction and demolition, the new building and new equipment.

### **Actions required**

Recommended actions to minimise negative impacts and improve sustainability impacts of the project include:

- Construction environmental management plan to minimise and manage construction impacts;
- Explore technologies to further reduce water and energy use and promote renewable energy sources;
- Recycle as much building waste and topsoil as possible in landscaping the former junior ranks site;
- Install collection systems for recyclable materials (e.g. cans, bottles, cardboard, plastics);
- Consult DE EST to confirm lack of significant biodiversity issues.
- Health, safety and Crime risk assessments for new layout and equipment.
- Undertake BREEAM or related assessments to ensure sustainable design and performance of new building;
- Liaise with DE EST SAT to build sustainability criteria into selection of PFI contractor. This will raise bidders' awareness that they need to be capable of helping MOD deliver its sustainability commitments;
- Monitor the environmental performance of the new building by adding its significant aspects to an Environmental Management System (either the EMS for the site or the contractor's EMS).

## SUSTAINABILITY APPRAISAL MATRIX

THEME AND OBJECTIVES	SCORE						COMMENTARY	ACTION REQUIRED
	n/a	A	B	C	D	E		
<b>A – Climate Change and Air Quality</b> Minimise greenhouse gas emissions and pollution of air with gases and particulates.				4			Temporary dust impacts during construction and demolition.	Dust management techniques as part of construction environmental management plan.
<b>B – Travel and Transport</b> Minimise amount of travelling required, particularly via roads and private cars.	4						Not applicable because there are no changes in on/off site movement and vehicles are not used to move around campus.	
<b>C – Energy Consumption</b> Minimise total energy consumption and support the use of renewable energy rather than fossil fuel sources.		4					The facility will replace some very inefficient buildings and equipment.	Explore feasibility of incorporating or procuring solar panelling or other renewable forms of energy.
<b>D – Noise and Vibration</b> Minimise disturbance to people and wildlife from noise and vibration.					4		Construction, demolition and associated vehicles will produce noise, which could disturb students and, to a lesser extent, residents in Spangley town.	Construction environmental management plan to include noise and vibration minimisation techniques.
<b>E – Water and Drainage</b> Reduce total water consumption and minimise risks of water pollution and flooding.				4			No change in numbers of people using water. Small risk of run off carrying sediment from construction site. An opportunity to install water saving devices and replace existing leaky pipes.	Explore use of water saving devices (e.g. aerated taps) at hand washing points. Install grease traps and filters from new dishwashing and preparation areas.

THEME AND OBJECTIVES	SCORE					COMMENTARY	ACTION REQUIRED
	n/a	A	B	C	D		
<b>F – Waste</b> Reduce waste production and promote reuse, recovery and recycling.					4	There will be construction and demolition waste, but there will also be more potential to make recycling initiatives more workable.	Investigate opportunities to recycle construction waste. Explore markets for recyclable catering packaging and design facilities into new building.
<b>G – Land, Buildings and Construction Materials</b> Minimise expansion onto 'green' sites and explore refurbishment before building afresh, design sustainability features into new facilities and promote recycling of materials.			4			Favourable re-use of former officers facilities. No new loss of green space as long as Junior ranks site is revegetated.	Develop a construction environmental management plan to minimise construction impacts. Ensure demolished site is revegetated and landscaped. Use sustainable design and assessment (e.g. DEEP and BREEAM) in design phase.
<b>H – Geology and Soils</b> Minimise loss and disturbance of soil and substrates. Minimise soil contamination risks and remediate previously degraded land.					4	Not a major problem, but some topsoil disturbance and loss to make way for new construction.	Ensure topsoil is recycled – preferably in landscaping the former junior ranks site.
<b>I – Biodiversity and Nature Conservation</b> Seek to protect habitats and species and promote opportunities to enhance and conserve wildlife.				4		No unusual species or habitats present. Minor disturbance during construction. No net loss of green areas.	Revegetate the former junior ranks site.
<b>J – Archaeology and Historic Environment</b> Protect and enhance features of archaeological interest, the historic environment and cultural heritage.					4	Potential to mar the setting of the listed Victorian House.	Sensitive design to complement style and materials of Victorian House – liaise with English Heritage.

THEME AND OBJECTIVES	SCORE					COMMENTARY	ACTION REQUIRED
	n/a	A	B	C	D		
<b>K – Landscape and Townscape</b> Protect and enhance the character and appeal of landscapes and townscapes.				4		As theme J – with the advantage of losing an unsightly 1960s junior ranks building.	Ensure site of former Junior ranks building is landscaped after demolition.
<b>L – Health, Safety and Crime</b> Maximise opportunities to promote healthy, safe and secure environments in which to live and work.					4	A new building design, layout and equipment will pose new health, safety and crime risks.	
<b>M – Communities and Social Values</b> Promote community development and relationships within MOD, and with adjacent populations. Involve communities in decision-making and minimise disturbance.				4		Better mixing and integration on site although no change in opportunity for external community involvement.	Encourage partner to procure materials, equipment and kitchen supplies from ethical suppliers.
<b>N – Infrastructure and Amenities</b> Maximise opportunities for all sectors of the public to use MOD amenities. Minimise disturbance to local populations when using public facilities.				4		No change in public interface.	Confirm that new build will include disabled access.
<b>O – Economy and Employment</b> Maintain and encourage a diverse and thriving economy, particularly at local and regional level.		4				Positive to keep existing staff and create a small number of extra jobs. New equipment and larger facility will help staff develop skills.	Encourage partner to employ local people and procure materials, equipment and supplies from small, local or diverse organisations.
Is there a requirement for Statutory Assessment?	EIA	8	Appropriate Assessment		8	Archaeological Evaluation	8

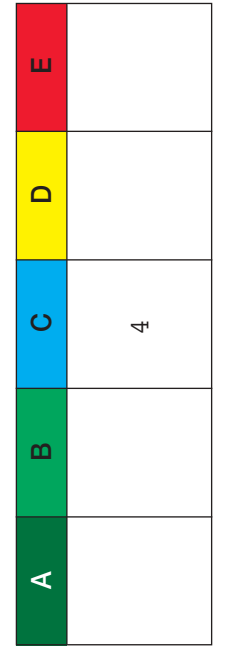
## CHECKLIST FOR THEME A: CLIMATE CHANGE AND AIR QUALITY

Overall objective: *Minimise greenhouse gas emissions and pollution of air with gases and particulates.*

POTENTIAL ISSUES	IMPACT			COMMENTS ON IMPACT	ACTION REQUIRED
	n/a	+ve	no -ve		
Change in level of CFC/HFC usage		4		Old air conditioning and refrigerators will be replaced	Any proposed air conditioning must avoid Halons
Change in amount of dust produced by e.g. firing, off-road driving or construction			4	There will be dust during demolition of old junior ranks block and new construction	Dust management during demolition and construction
Change in amount of waste incineration or other combustion activities	4			No combustion activities	
Change in reliance on fossil fuels for energy generation or vehicle use		4		No plans to change the energy supplies during the project	Explore use of solar panels to heat water or generate electricity
Change in production of atmospheric pollutants from industrial processes		4		No change in activities	
Change in type and firing intensity of weapons or explosives	4			No use of explosives	
Change in indoor air quality due to different layout or materials		4		No apparent changes	
Other climate change or air quality issues					

**STAKEHOLDERS CONSULTED AND REFERENCES USED**

**SUSTAINABILITY SCORE FOR THIS THEME**



**PRIORITY ACTIONS AND RESOURCES REQUIRED**

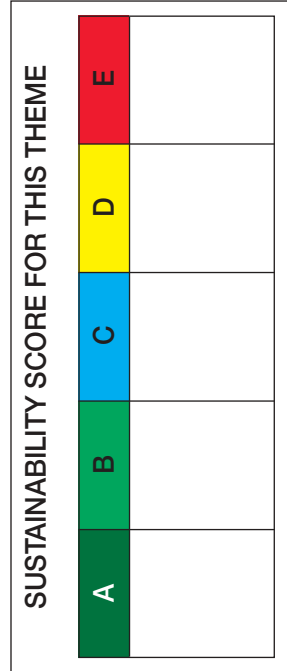
Dust minimisation during demolition and construction.

**CHECKLIST FOR THEME B: TRAVEL AND TRANSPORT**

Overall objective: *Minimise amounts of travelling required, particularly via roads and private cars.*

POTENTIAL ISSUES	IMPACT			COMMENTS ON IMPACT	ACTION REQUIRED
	n/a	+ve	no -ve		
Change in fuel efficiency and emission levels from vehicles	4			No vehicle issues	
Change in volume of commuting or travelling to clients and facilities	4			Changes are contained within the same site so no extra movement to and from site	
Change in amount of vehicle use in training exercises	4				
Change in freight distance covered if engaging with different suppliers or procuring/disposing of different quantities	4				
Change in transport mode for commuting or travelling to clients or facilities	4				
Change in levels of congestion on local roads or at access points	4				
Other travel and transport issues					

**STAKEHOLDERS CONSULTED AND REFERENCES USED**



**PRIORITY ACTIONS AND RESOURCES REQUIRED**

### CHECKLIST FOR THEME C: ENERGY CONSUMPTION

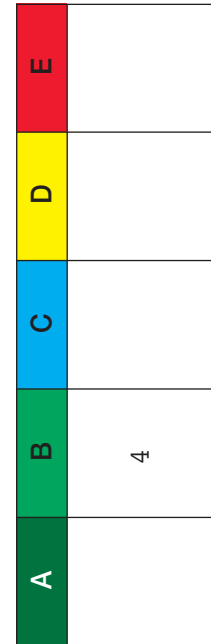
Overall objective: *Minimise total energy consumption and support the use of renewable energy rather than fossil fuel sources.*

POTENTIAL ISSUES	IMPACT				COMMENTS ON IMPACT	ACTION REQUIRED
	n/a	+ve	no	-ve		
Change in number of energy consuming personnel on site	4				No change in personnel numbers	
Change in number of energy consuming buildings or processes on site		4			Decrease in net number of kitchens and dining rooms. More energy efficient to combine processes	
Change in amount of energy saving technology installed in facilities		4			No plans to specifically procure energy saving technology, but project will replace some very inefficient equipment and buildings	Explore procurement of energy efficient equipment and building design
Change in balance of renewable/non-renewable energy used			4		No plans to change the supply of energy	Explore options to procure more renewable energy
Change in opportunity to explore generation of renewable energy			4		No plans to generate renewable energy as yet	Explore options for solar panels on roof
Change in opportunity to generate CHP			4		No plans to generate CHP	Explore feasibility of using methane from digested kitchen waste as fuel
Change in through-life energy use of equipment		4			New kitchen equipment will be more efficient in the long term than the present appliances	
Other energy issues						

#### STAKEHOLDERS CONSULTED AND REFERENCES USED

Spangley's utilities manager

#### SUSTAINABILITY SCORE FOR THIS THEME



#### PRIORITY ACTIONS AND RESOURCES REQUIRED

Explore feasibility of using solar panelling or other renewable energy sources

## CHECKLIST FOR THEME D: NOISE AND VIBRATION

Overall objective: *Minimise disturbance to people and wildlife from noise and vibration.*

POTENTIAL ISSUES	IMPACT			COMMENTS ON IMPACT	ACTION REQUIRED
	n/a	+ve	-ve		
Change in intensity, duration or timing of training activities – effects on people and wildlife	4				
Change in type of vehicle or weapons used	4				
Change in volume and timing of heavy vehicles on roads, particularly through communities or near historic buildings			4	There will be construction vehicles passing through Spangley and the campus during building and demolition phases	Transport plan to choose timings least inconvenient to local residents
Change in noise and vibration from demolition and construction activities			4	Construction and demolition will be noisy, and could be disturbing to students in classes. Potential for vibration to affect the old Victorian house?	Construction noise management plan – liaise with college staff on timings of noisy tasks
Changes in recreational use of the estate, e.g. activities such as driving or shooting	4				
Other noise and vibration issues					

### STAKEHOLDERS CONSULTED AND REFERENCES USED

### SUSTAINABILITY SCORE FOR THIS THEME

A	B	C	D	E
			4	

### PRIORITY ACTIONS AND RESOURCES REQUIRED

Noise management plan during construction and demolition

### CHECKLIST FOR THEME E: WATER AND DRAINAGE

Overall objective: *Reduce total water consumption and minimise risks of water pollution and flooding.*

POTENTIAL ISSUES	IMPACT			COMMENTS ON IMPACT	ACTION REQUIRED
	n/a	+ve	no -ve		
Change in area under hard surfaces, especially near floodplains		4		No net change. Any loss of vegetated area for new build negated by restoring site of junior ranks building	Ensure that site of junior ranks building is restored and vegetated after demolition
Change in sedimentation of watercourses e.g. from driving, dredging, soil erosion or construction run-off			4	Short term risk of run-off carrying sediment to drains/watercourses	Sediment traps
Change in number of people and processes consuming/abstracting water		4		No change in numbers of people, although there may be economies of scale in one big set of sinks etc	
Change in number of people and processes that discharge waste water		4		No change in people numbers	
Change in opportunity to install water-saving measures		4		Project will replace some old, leaky pipework	Explore water saving measures e.g. aerated taps for handwashing
Change in number or type of potentially polluting activities or processes on site		4		No change in activities	
Other noise and vibration issues					

**STAKEHOLDERS CONSULTED AND REFERENCES USED**  
Spanglely utilities manager

#### SUSTAINABILITY SCORE FOR THIS THEME

A	B	C	D	E
		4		

#### PRIORITY ACTIONS AND RESOURCES REQUIRED

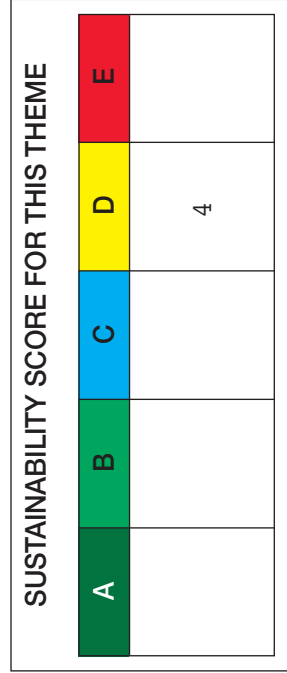
Construction environmental management plan to include sediment traps.  
Explore water saving measures

**CHECKLIST FOR THEME F: WASTE**

Overall objective: *Reduce waste production and promote reuse, recycling and recovery.*

POTENTIAL ISSUES	IMPACT				COMMENTS ON IMPACT	ACTION REQUIRED
	n/a	+ve	no	-ve		
Change in amount of waste produced (by e.g. more people, different materials)			4		No change in numbers of people or processes	
Change in amount of special, controlled, hazardous or radioactive waste produced			4		No change in substances or quantities	
Change in waste quantities from demolition or construction activities				4	There will be waste from demolition and construction	See if demolition waste can be recycled
Change in opportunity to procure recycled or re-used items			4			Seek opportunities to use any recycled construction materials
Change in opportunity to send more waste for re-use or recycling		4			Combined facilities and a larger scale operation makes it more practicable to collect e.g. paper, bottles, cans, plastics for recycling, or composting food waste	Explore infrastructure and markets for recyclable materials. Incorporate collection stations into design
Changes in waste produced through disposal of redundant equipment and materials				4	Old appliances will be disposed of because they are near the end of useful life	Recycle or send for scrap rather than landfill
Other waste issues						

**STAKEHOLDERS CONSULTED AND REFERENCES USED**  
Spangle waste manager



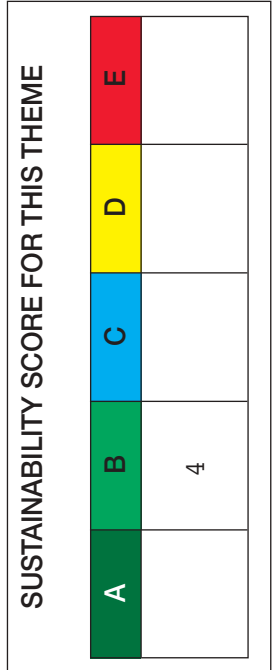
**PRIORITY ACTIONS AND RESOURCES REQUIRED**  
Investigate recycling opportunities and infrastructure for daily waste.  
See if demolition waste or old appliances can be recycled

## CHECKLIST FOR THEME G: LAND, BUILDINGS AND CONSTRUCTION MATERIALS

Overall objective: *Minimise expansion onto green sites, explore refurbishment before building afresh, design sustainability features into new buildings and promote recycling of materials.*

POTENTIAL ISSUES	IMPACT			COMMENTS ON IMPACT	ACTION REQUIRED
	n/a	+ve	no -ve		
Opportunity to affect the design and layout of new buildings and facilities		4		It is still early enough to build sustainability features into building and layout design	Promote use of e.g. BREEAM, DEEP by successful contractor
Change in amount of construction activity			4	There will be a phase of construction activity	Construction environmental management plan from contractor
Opportunity to refurbish old brownfield facilities rather than build afresh			4	Project requires a new build. It will be on an area that is partly grass, partly tarmac	
Change in amount of green space developed			4	Project will take up a bit of green space but the area left upon demolishing old building can be landscaped	Ensure land under junior ranks building is restored after demolition
Change in use of materials for construction and refurbishment		4		There will be resources used for construction	
Disposal or procurement of land or buildings	4			Activity restricted within established site	
Changes in how land or buildings are used		4		Officers facilities in the mess will be brought back into use as conference rooms	
Other land, building and construction issues					

**STAKEHOLDERS CONSULTED AND REFERENCES USED**



**PRIORITY ACTIONS AND RESOURCES REQUIRED**  
 Contractor to develop construction environmental management plan.  
 Landscape site of demolished building

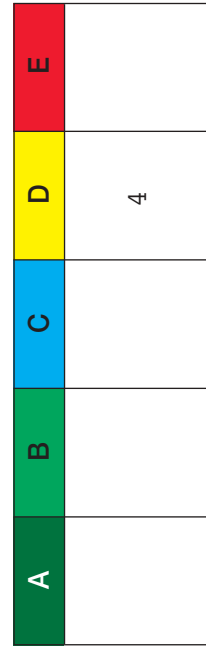
## CHECKLIST FOR THEME H: GEOLOGY AND SOILS

Overall objective: *Minimise loss and disturbance of soil and substrates. Minimise soil contamination risks and remediate previously degraded land.*

POTENTIAL ISSUES	IMPACT			COMMENTS ON IMPACT	ACTION REQUIRED
	n/a	+ve	no -ve		
Change in off-road vehicle use (type, timing or intensity) or firing	4				
Presence of construction activities (e.g. foundations, piling, pipelines) to cause soil removal or structural instability			4	Minor construction impacts	Construction environmental management plan to minimise soil disturbance around construction margins
Change in use, type or storage of fuels and other hazardous substances	4			Kitchens do not utilise large quantities of hazardous substances	
Disposal or development of land that has potential to be contaminated	4			No contaminating activities on site	
Generation of surplus soil to be disposed of as waste			4	Some topsoil will be removed under new building	See if topsoil can be recycled – e.g. to restore site of demolished junior ranks building
Proximity to a geological SSSI	4				
Other geology and soil issues					

### STAKEHOLDERS CONSULTED AND REFERENCES USED

### SUSTAINABILITY SCORE FOR THIS THEME



### PRIORITY ACTIONS AND RESOURCES REQUIRED

Construction environmental management plan.  
Recycle soil under new build on site of demolished building

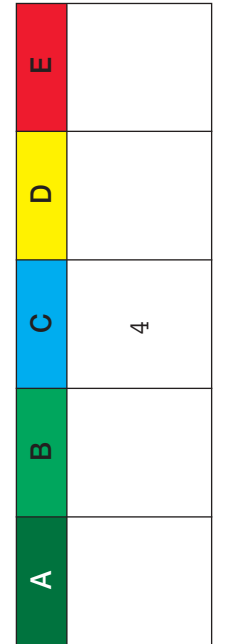
## CHECKLIST FOR THEME I: BIODIVERSITY AND NATURE CONSERVATION

Overall objective: *Seek to protect habitats and species and promote opportunities to enhance and conserve wildlife.*

POTENTIAL ISSUES	IMPACT				COMMENTS ON IMPACT	ACTION REQUIRED
	n/a	+ve	no	-ve		
Proximity to a designated site particularly (SSSI, SPA, SAC or Ramsar site)	4					
Presence of European/Nationally protected or BAP species			4		Unlikely to be many unusual species	Consult with DE EST Conservation to confirm
Change in location, intensity, type or timing of training activities	4					
Change in land use or land management practice (including conservation regimes)	4					
Acquisition or disposal of land or property with biodiversity interest	4					
Change in amount of public access or recreational opportunities	4					
Changes in people and vehicle movement, noise, dust or habitat loss due to construction and engineering projects				4	Minor wildlife disturbance during construction but unlikely to be sensitive species	Investigate if construction environmental management plan could include any wildlife mitigation measures
Other biodiversity and nature conservation issues			4			Could be an opportunity to incorporate wildlife interest in new build, e.g. nest boxes or bat roosts

### STAKEHOLDERS CONSULTED AND REFERENCES USED

### SUSTAINABILITY SCORE FOR THIS THEME



### PRIORITY ACTIONS AND RESOURCES REQUIRED

Consult DE EST to confirm potential for wildlife impacts (or otherwise).  
Restore vegetation on site of junior ranks building to compensate for grassy area lost for new build

## CHECKLIST FOR THEME J: ARCHAEOLOGY AND HISTORIC ENVIRONMENT

Overall objective: *Protect and enhance features of archaeological interest, the historic environment and cultural heritage.*

POTENTIAL ISSUES	IMPACT				COMMENTS ON IMPACT	ACTION REQUIRED
	n/a	+ve	no	-ve		
Chance of activity affecting known archaeological or heritage features				4	Potential for new build to mar the attractiveness of the listed Victorian country house	Sensitive design and use of materials to blend in with country house
Chance of activity affecting unknown archaeology or heritage features			4		County Archaeologist was of the opinion there was unlikely to be features on interest on site	
Change in intensity of training near archaeology or historic buildings (e.g. driving, firing, digging, noise, vibration)	4					
Change in intensity of construction or engineering works				4	Construction vibration could affect main house	
Change in land management regime, e.g. forestry, ploughing, recreation	4					
Acquisition or disposal of sites that may have archaeological or heritage features	4					
Refurbishment or change of use of historic buildings		4			Stripping out officers kitchen and dining room in Mess section of listed main house	Sensitive design and construction of new conference rooms in main house
Other archaeological and historic environment issues						

### STAKEHOLDERS CONSULTED AND REFERENCES USED

County Archaeologist  
English Heritage

### SUSTAINABILITY SCORE FOR THIS THEME

A	B	C	D	E
			4	

### PRIORITY ACTIONS AND RESOURCES REQUIRED

Sensitive design and choice of materials to complement listed building. Maintain liaison with English Heritage

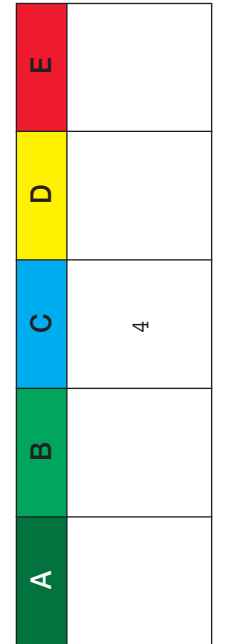
## CHECKLIST FOR THEME K: LANDSCAPE AND TOWNSCAPE

Overall objective: *Protect and enhance the character and appeal of landscapes and townscapes.*

POTENTIAL ISSUES	IMPACT			COMMENTS ON IMPACT	ACTION REQUIRED
	n/a	+ve	no -ve		
Change in activity in National Parks, AONBs, National Scenic Areas, Conservation Areas	4				
Change in land management regime (e.g. tree planting, agriculture)	4				
Construction of new buildings, engineering works or training features		4		New building may have potential to mar the listed main house, but loss of the 1960s junior ranks building will be a landscape gain	Sensitive design of new building to blend into the country house setting
Potential removal of landscape features e.g. walls, hedgerows, woodland, vernacular buildings, landforms		4		A small area of grassy lawn will be built upon, but the site of the junior ranks building can be grassed over	Ensure Junior ranks building site is revegetated
Change in the lighting of buildings or sites	4				
Acquisition or disposal of sites with landscape or townscape value	4				
Change in intensity of use of rural areas, affecting tranquillity or "wilderness"	4				
Other landscape and townscape issues					

**STAKEHOLDERS CONSULTED AND REFERENCES USED**

**SUSTAINABILITY SCORE FOR THIS THEME**



**PRIORITY ACTIONS AND RESOURCES REQUIRED**

Maintain liaison with English Heritage on design of new building. Ensure Junior ranks site is revegetated

## CHECKLIST FOR THEME L: HEALTH, SAFETY AND CRIME

Overall objective: *Maximise opportunities to promote healthy, safe and secure environments in which to live and work.*

POTENTIAL ISSUES	IMPACT			COMMENTS ON IMPACT	ACTION REQUIRED
	n/a	+ve	no -ve		
Change to building or interior layout that could pose crime risks or safety hazards			4	Staff will have to get used to the new layout and facilities	Undertake risk assessments. Build any issues into existing site health and safety training
Change in equipment used that could pose health, safety or crime risks		4		New kitchen equipment will be safer than the old appliances	Ensure health, safety and crime are fully considered and minimised in design process
Change in processes or activities that may pose health, safety or crime risks	4			No change in processes	
Changes in use or storage of substances that may pose health, safety or crime risk			4	Storage of food etc in one place may be riskier than in separate locations, but it is easier to secure one site	
Change in staff numbers or workload that may affect health or stress levels			4		
Influx of new staff that may be unsure of health, safety or security procedures			4	Some new staff will be taken on, and all need to get used to the new building	Health, safety and security training.
Other health, safety or crime issues					

### STAKEHOLDERS CONSULTED AND REFERENCES USED

### SUSTAINABILITY SCORE FOR THIS THEME

A	B	C	D	E
			4	

### PRIORITY ACTIONS AND RESOURCES REQUIRED

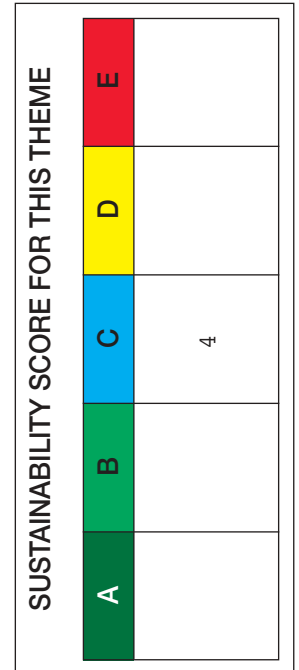
Ensure risk assessments are undertaken and that kitchen staff and diners are trained to understand any issues that arise from the new facility

### CHECKLIST FOR THEME M: COMMUNITIES AND SOCIAL VALUES

Overall objective: *Promote community development and relationships within MOD and with adjacent populations. Involve communities in decision-making and minimise disturbance.*

POTENTIAL ISSUES	IMPACT				COMMENTS ON IMPACT	ACTION REQUIRED
	n/a	+ve	no	-ve		
Change in balance of tri-service or civilian personnel		4			There will be better integration across the range of personnel if they are sharing the same facility	
Change in level of disturbance (e.g. traffic congestion, construction, vehicle noise, firing) felt by local communities				4	Minor temporary effects of construction vehicles	Sensitive planning of routes and timings
Change in opportunity for community consultation on new projects or proposals		4			Opportunity has been taken to consult with local authority and parish councils	
Expansion or shrinkage of military presence in an area	4					
Change in opportunity for personnel to become involved with community projects	4					
Procurement of equipment or materials (consider supplier/producer social ethics)			4		Procurement will be undertaken by PFI partner, which could be positive or negative	Encourage Partner to consider ethical and social issues in food or material procurement
Other community or social issues						

**STAKEHOLDERS CONSULTED AND REFERENCES USED**  
Local Authority  
Parish Council



**PRIORITY ACTIONS AND RESOURCES REQUIRED**  
Encourage Partner to undertake sensitive supply chain management

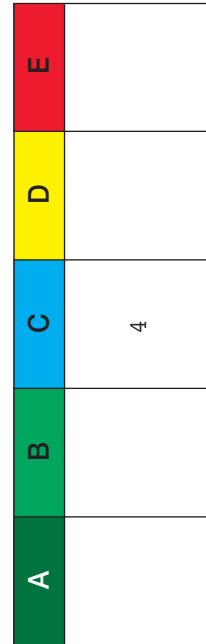
## CHECKLIST FOR THEME N: INFRASTRUCTURE AND AMENITIES

Overall objective: *Maximise opportunities for all sectors of the public to use MOD amenities. Minimise disturbance to local populations when using public facilities.*

POTENTIAL ISSUES	IMPACT			COMMENTS ON IMPACT	ACTION REQUIRED
	n/a	+ve	no -ve		
Change in numbers of staff and families requiring public amenities off site	4				
Change in access to amenities on site by internal staff			4	All staff will still have access to catering and dining facilities	
Change in access to amenities on site by the wider public			4	The only feature of public interest is the Victorian house, which will maintain existing pattern of open days	
Change in opportunity for public access and recreation on the estate	4				
Change in access and participation available to people with disabilities		4		Current Officers dining room has no disabled access, which should be rectified by new build	Ensure new build allows access by people of all physical abilities
Contractorisation or privatisation of amenities, facilities or services			4	Project will be contractorised, but it is not anticipated that there would be public demand for the facility	
Other infrastructure and amenity issues					

**STAKEHOLDERS CONSULTED AND REFERENCES USED**

**SUSTAINABILITY SCORE FOR THIS THEME**



**PRIORITY ACTIONS AND RESOURCES REQUIRED**  
Disabled access

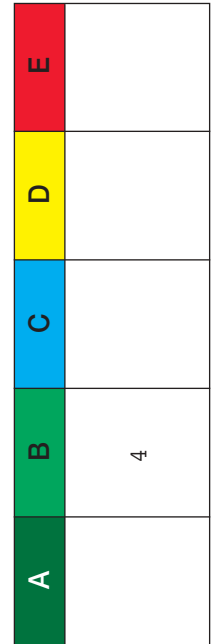
## CHECKLIST FOR THEME O: ECONOMY AND EMPLOYMENT

Overall objective: *Maintain and encourage a diverse and thriving economy, particularly at local and regional level.*

POTENTIAL ISSUES	IMPACT				COMMENTS ON IMPACT	ACTION REQUIRED
	n/a	+ve	no	-ve		
Change in number of Military or civilian jobs in an area (or change in grade profile)			4		Existing staff will transfer to PFI partner	
Change in numbers of people (who may spend money locally) based in an area,	4				No change in staff numbers	
Change in amount of equipment or materials procured			4		There will be an increase in construction materials procured but no long term increase in kitchen supplies	
Change in opportunity to procure materials or services locally		4			There will be a requirement for construction materials and labour and kitchen supplies	Explore feasibility of procuring kitchen supplies, construction materials and labour locally
Change in opportunity to enhance the skills of staff or wider communities		4			There will be experience to work in a bigger facility with more modern equipment	
Change in training activity or land use that may alter livelihood of estate tenants or other commercial users of the estate	4					
Other economy and employment issues						

**STAKEHOLDERS CONSULTED AND REFERENCES USED**

**SUSTAINABILITY SCORE FOR THIS THEME**



**PRIORITY ACTIONS AND RESOURCES REQUIRED**

Explore local procurement of materials and labour

# EVALUATION OF REQUIREMENT FOR STATUTORY ASSESSMENTS

Do the following apply to the project or proposal?	Yes/No
Will your proposal or project subject to Planning approval under either the NOPD (Circular 18/84) or conventional Planning process?	Yes
Have you consulted with the Local Planning Authority (which may be the National Park Authority in designated areas)?	Yes

## ENVIRONMENTAL IMPACT ASSESSMENT

See Chapter Nine for full information on legislation and requirements

Do the following regulations apply to the project or proposal?	Yes/No
Town and Country Planning (EIA) Regulations 1999 (Schedule 1 or Schedule 2 developments)	No
Environmental Impact Assessment (Uncultivated Land and Semi-Natural Areas) Regulations 2001	No
Environmental Impact Assessment (Forestry) Regulations	No
Environmental Impact Assessment (Land Drainage Improvement Works) Regulations 1999	No
Harbour Works (Environmental Impact Assessment) Regulations 1999	No
Environment Act 1995 – National Parks EIA requirements under Circular 12/96	No
Other EIA Regulations	No

## APPROPRIATE ASSESSMENT

See Chapter Ten for full information on legislation and requirements

Do the following apply to the project or proposal?	Yes/No
Likely to have a significant effect on a Special Area of Conservation (under EU Habitats and Species Directive)	No
Likely to have a significant effect on a Special Protection Area for Birds (under EU Birds Directive)	No
Likely to have a significant effect on a Ramsar site of International Wetland Importance (Ramsar Convention, Planning Policy)	No
Have you consulted (via Defence Estates) with the relevant Statutory Body? (English Nature, Countryside Council for Wales, Scottish Natural Heritage, Environment and Heritage Service NI)	No

## ARCHAEOLOGICAL EVALUATION

See Guidance Note for Theme J in Chapter Six for full policy and requirements.

Do the following apply to the project or proposal?	Yes/No
Planning Policy Guidance 15 and 16, requiring archaeological evaluation before planning approval is granted	No
Have you consulted (via Defence Estates) the County Archaeologist or relevant Statutory Body (English Heritage, CADW, Historic Scotland, Environment and Heritage Service NI)	Yes



# CHAPTER 8: BLANK CHECKLISTS AND MATRIX

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## 8.1 INTRODUCTION

This chapter contains the forms and templates for recording the results of the Sustainability Appraisal, including:

- Blank checklists from the Technical Guidance Notes;
- Form to record whether further Statutory Assessment is required;
- Appraisal Matrix.

The forms can be photocopied and filled in manually, or they can be downloaded from the electronic version of the handbook available on the web.

The eventual Sustainability Appraisal report should be presented as the summary report with title page, then the summary appraisal matrix, and finally the set of completed checklists.



**CHECKLIST FOR THEME A: CLIMATE CHANGE AND AIR QUALITY**

Overall objective: *Minimise greenhouse gas emissions and pollution of air with gases and particulates.*

POTENTIAL ISSUES	IMPACT				COMMENTS ON IMPACT	ACTION REQUIRED
	n/a	+ve	no	-ve		
Change in level of CFC/HFC usage						
Change in amount of dust produced by e.g. firing, off-road driving or construction						
Change in amount of waste incineration or other combustion activities						
Change in reliance on fossil fuels for energy generation or vehicle use						
Change in production of atmospheric pollutants from industrial processes						
Change in type and firing intensity of weapons or explosives						
Change in indoor air quality due to different layout or materials						
Other climate change or air quality issues						

**STAKEHOLDERS CONSULTED AND REFERENCES USED**

**SUSTAINABILITY SCORE FOR THIS THEME**

A	B	C	D	E

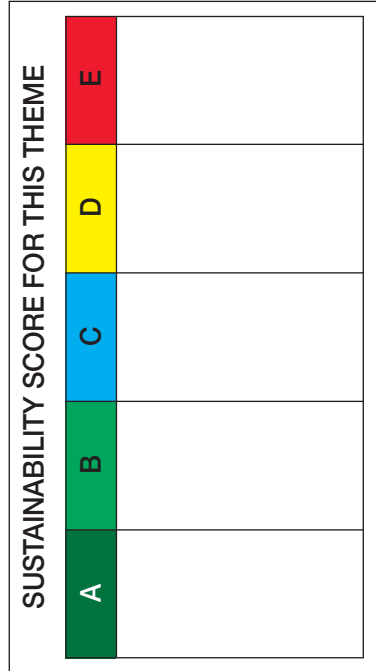
**PRIORITY ACTIONS AND RESOURCES REQUIRED**

**CHECKLIST FOR THEME B: TRAVEL AND TRANSPORT**

Overall objective: *Minimise amounts of travelling required, particularly via roads and private cars.*

POTENTIAL ISSUES	IMPACT				COMMENTS ON IMPACT	ACTION REQUIRED
	n/a	+ve	no	-ve		
Change in fuel efficiency and emission levels from vehicles						
Change in volume of commuting or travelling to clients and facilities						
Change in amount of vehicle use in training exercises						
Change in freight distance covered if engaging with different suppliers or procuring/disposing of different quantities						
Change in transport mode for commuting or travelling to clients or facilities						
Change in levels of congestion on local roads or at access points						
Other travel and transport issues						

**STAKEHOLDERS CONSULTED AND REFERENCES USED**



**PRIORITY ACTIONS AND RESOURCES REQUIRED**

**CHECKLIST FOR THEME C: ENERGY CONSUMPTION**

Overall objective: *Minimise total energy consumption and support the use of renewable energy rather than fossil fuel sources.*

POTENTIAL ISSUES	IMPACT				COMMENTS ON IMPACT	ACTION REQUIRED
	n/a	+ve	no	-ve		
Change in number of energy consuming personnel on site						
Change in number of energy consuming buildings or processes on site						
Change in amount of energy saving technology installed in facilities						
Change in balance of renewable/non-renewable energy used						
Change in opportunity to explore generation of renewable energy						
Change in opportunity to generate CHP						
Change in through-life energy use of equipment						
Other energy issues						

**STAKEHOLDERS CONSULTED AND REFERENCES USED**

SUSTAINABILITY SCORE FOR THIS THEME	
A	B C D E

**PRIORITY ACTIONS AND RESOURCES REQUIRED**

**CHECKLIST FOR THEME D: NOISE AND VIBRATION**

Overall objective: *Minimise disturbance to people and wildlife from noise and vibration.*

POTENTIAL ISSUES	IMPACT				COMMENTS ON IMPACT	ACTION REQUIRED
	n/a	+ve	no	-ve		
Change in intensity, duration or timing of training activities – effects on people and wildlife						
Change in type of vehicle or weapons used						
Change in volume and timing of heavy vehicles on roads, particularly through communities or near historic buildings						
Change in noise and vibration from demolition and construction activities						
Changes in recreational use of the estate, e.g. activities such as driving or shooting						
Other noise and vibration issues						

**STAKEHOLDERS CONSULTED AND REFERENCES USED**

SUSTAINABILITY SCORE FOR THIS THEME				
A	B	C	D	E

**PRIORITY ACTIONS AND RESOURCES REQUIRED**

**CHECKLIST FOR THEME E: WATER AND DRAINAGE**

Overall objective: *Reduce total water consumption and minimise risks of water pollution and flooding.*

POTENTIAL ISSUES	IMPACT				COMMENTS ON IMPACT	ACTION REQUIRED
	n/a	+ve	no	-ve		
Change in area under hard surfaces, especially near floodplains						
Change in sedimentation of watercourses e.g. from driving, dredging, soil erosion or construction run-off						
Change in number of people and processes consuming/abstracting water						
Change in number of people and processes that discharge waste water						
Change in opportunity to install water-saving measures						
Change in number or type of potentially polluting activities or processes on site						
Other noise and vibration issues						

**STAKEHOLDERS CONSULTED AND REFERENCES USED**

SUSTAINABILITY SCORE FOR THIS THEME				
A	B	C	D	E

**PRIORITY ACTIONS AND RESOURCES REQUIRED**

**CHECKLIST FOR THEME F: WASTE**

Overall objective: *Reduce waste production and promote reuse, recycling and recovery.*

POTENTIAL ISSUES	IMPACT				COMMENTS ON IMPACT	ACTION REQUIRED
	n/a	+ve	no	-ve		
Change in amount of waste produced (by e.g. more people, different materials)						
Change in amount of special, controlled, hazardous or radioactive waste produced						
Change in waste quantities from demolition or construction activities						
Change in opportunity to procure recycled or re-used items						
Change in opportunity to send more waste for re-use or recycling						
Changes in waste produced through disposal of redundant equipment and materials						
Other waste issues						

**STAKEHOLDERS CONSULTED AND REFERENCES USED**

SUSTAINABILITY SCORE FOR THIS THEME				
A	B	C	D	E

**PRIORITY ACTIONS AND RESOURCES REQUIRED**

**CHECKLIST FOR THEME G: LAND, BUILDINGS AND CONSTRUCTION MATERIALS**

Overall objective: *Minimise expansion onto green sites, explore refurbishment before building afresh, design sustainability features into new buildings and promote recycling of materials.*

POTENTIAL ISSUES	IMPACT				COMMENTS ON IMPACT	ACTION REQUIRED
	n/a	+ve	no	-ve		
Opportunity to affect the design and layout of new buildings and facilities						
Change in amount of construction activity						
Opportunity to refurbish old brownfield facilities rather than build afresh						
Change in amount of green space developed						
Change in use of materials for construction and refurbishment						
Disposal or procurement of land or buildings						
Changes in how land or buildings are used						
Other land, building and construction issues						

**STAKEHOLDERS CONSULTED AND REFERENCES USED**

SUSTAINABILITY SCORE FOR THIS THEME				
A	B	C	D	E

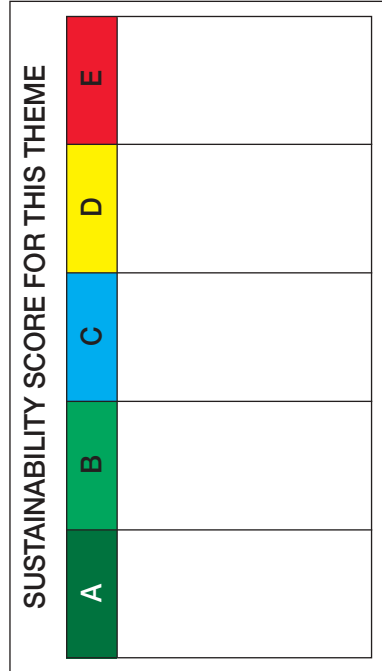
**PRIORITY ACTIONS AND RESOURCES REQUIRED**

**CHECKLIST FOR THEME H: GEOLOGY AND SOILS**

Overall objective: *Minimise loss and disturbance of soil and substrates. Minimise soil contamination risks and remediate previously degraded land.*

POTENTIAL ISSUES	IMPACT				COMMENTS ON IMPACT	ACTION REQUIRED
	n/a	+ve	no	-ve		
Change in off-road vehicle use (type, timing or intensity) or firing						
Presence of construction activities (e.g. foundations, piling, pipelines) to cause soil removal or structural instability						
Change in use, type or storage of fuels and other hazardous substances						
Disposal or development of land that has potential to be contaminated						
Generation of surplus soil to be disposed of as waste						
Proximity to a geological SSSI						
Other geology and soil issues						

**STAKEHOLDERS CONSULTED AND REFERENCES USED**



**PRIORITY ACTIONS AND RESOURCES REQUIRED**

### CHECKLIST FOR THEME I: BIODIVERSITY AND NATURE CONSERVATION

Overall objective: *Seek to protect habitats and species and promote opportunities to enhance and conserve wildlife.*

POTENTIAL ISSUES	IMPACT				COMMENTS ON IMPACT	ACTION REQUIRED
	n/a	+ve	no	-ve		
Proximity to a designated site (particularly SSSI, SPA, SAC or Ramsar site)						
Presence of European/Nationally protected or BAP species						
Change in location, intensity, type or timing of training activities						
Change in land use or land management practice (including conservation regimes)						
Acquisition or disposal of land or property with biodiversity interest						
Change in amount of public access or recreational opportunities						
Changes in people and vehicle movement, noise, dust or habitat loss due to construction and engineering projects						
Other biodiversity and nature conservation issues						

**STAKEHOLDERS CONSULTED AND REFERENCES USED**

SUSTAINABILITY SCORE FOR THIS THEME				
A	B	C	D	E

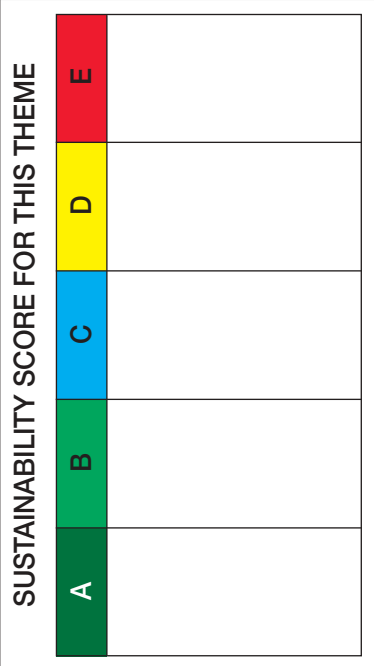
**PRIORITY ACTIONS AND RESOURCES REQUIRED**

**CHECKLIST FOR THEME J: ARCHAEOLOGY AND HISTORIC ENVIRONMENT**

Overall objective: *Protect and enhance features of archaeological interest, the historic environment and cultural heritage.*

POTENTIAL ISSUES	IMPACT				COMMENTS ON IMPACT	ACTION REQUIRED
	n/a	+ve	no	-ve		
Chance of activity affecting known archaeological or heritage features						
Chance of activity affecting unknown archaeological or heritage features						
Change in intensity of training near archaeology or historic buildings (e.g. driving, firing, digging, noise, vibration)						
Change in intensity of construction or engineering works						
Change in land management regime, e.g. forestry, ploughing, recreation						
Acquisition or disposal of sites that may have archaeological or heritage features						
Refurbishment or change of use of historic buildings						
Other archaeological and historic environment issues						

**STAKEHOLDERS CONSULTED AND REFERENCES USED**



**PRIORITY ACTIONS AND RESOURCES REQUIRED**

### CHECKLIST FOR THEME K: LANDSCAPE AND TOWNSCAPE

Overall objective: *Protect and enhance the character and appeal of landscapes and townscapes.*

POTENTIAL ISSUES	IMPACT				COMMENTS ON IMPACT	ACTION REQUIRED
	n/a	+ve	no	-ve		
Change in activity in National Parks, AONBs, National Scenic Areas, Conservation Areas						
Change in land management regime (e.g. tree planting, agriculture)						
Construction of new buildings, engineering works or training features						
Potential removal of landscape features e.g. walls, hedgerows, woodland, vernacular buildings, landforms						
Change in the lighting of buildings or sites						
Acquisition or disposal of sites with landscape or townscape value						
Change in intensity of use of rural areas, affecting tranquility or 'wilderness'						
Other landscape and townscape issues						

**STAKEHOLDERS CONSULTED AND REFERENCES USED**

SUSTAINABILITY SCORE FOR THIS THEME				
A	B	C	D	E

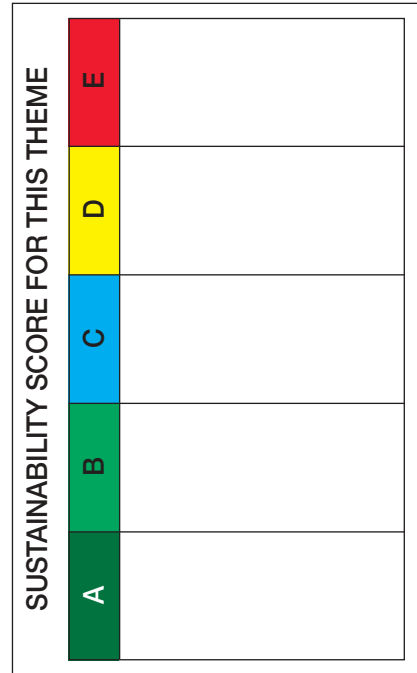
**PRIORITY ACTIONS AND RESOURCES REQUIRED**

**CHECKLIST FOR THEME L: HEALTH, SAFETY AND CRIME**

Overall objective: *Maximise opportunities to promote healthy, safe and secure environments in which to live and work.*

POTENTIAL ISSUES	IMPACT				COMMENTS ON IMPACT	ACTION REQUIRED
	n/a	+ve	no	-ve		
Change to building or interior layout that could pose crime risks or safety hazards						
Change in equipment used that could pose health, safety or crime risks						
Change in processes or activities that may pose health, safety or crime risks						
Changes in use or storage of substances that may pose health, safety or crime risk						
Change in staff numbers or workload that may affect health or stress levels						
Influx of new staff that may be unsure of health, safety or security procedures						
Other health, safety or crime issues						

**STAKEHOLDERS CONSULTED AND REFERENCES USED**



**PRIORITY ACTIONS AND RESOURCES REQUIRED**

**CHECKLIST FOR THEME M: COMMUNITIES AND SOCIAL VALUES**

*Overall objective: Promote community development and relationships within MOD and with adjacent populations. Involve communities in decision-making and minimise disturbance.*

POTENTIAL ISSUES	IMPACT				COMMENTS ON IMPACT	ACTION REQUIRED
	n/a	+ve	no	-ve		
Change in balance of tri-service or civilian personnel						
Change in level of disturbance (e.g. traffic congestion, construction, vehicle noise, firing) felt by local communities						
Change in opportunity for community consultation on new projects or proposals						
Expansion or shrinkage of military presence in an area						
Change in opportunity for personnel to become involved with community projects						
Procurement of equipment or materials (consider supplier/producer social ethics)						
Other community or social issues						

**STAKEHOLDERS CONSULTED AND REFERENCES USED**

SUSTAINABILITY SCORE FOR THIS THEME	
A	B C D E

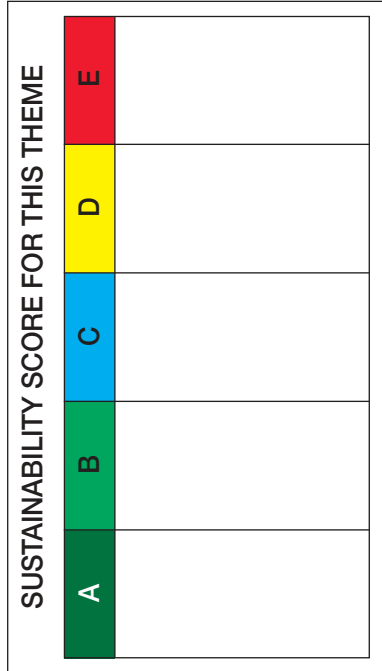
**PRIORITY ACTIONS AND RESOURCES REQUIRED**

**CHECKLIST FOR THEME N: INFRASTRUCTURE AND AMENITIES**

Overall objective: *Maximise opportunities for all sectors of the public to use MOD amenities. Minimise disturbance to local populations when using public facilities.*

POTENTIAL ISSUES	IMPACT				COMMENTS ON IMPACT	ACTION REQUIRED
	n/a	+ve	no	-ve		
Change in numbers of staff and families requiring public amenities off site						
Change in access to amenities on site by internal staff						
Change in access to amenities on site by the wider public						
Change in opportunity for public access and recreation on the estate						
Change in access and participation available to people with disabilities						
Contractorisation or privatisation of amenities, facilities or services						
Other infrastructure and amenity issues						

**STAKEHOLDERS CONSULTED AND REFERENCES USED**



**PRIORITY ACTIONS AND RESOURCES REQUIRED**

### CHECKLIST FOR THEME O: ECONOMY AND EMPLOYMENT

Overall objective: *Maintain and encourage a diverse and thriving economy, particularly at local and regional level.*

POTENTIAL ISSUES	IMPACT				COMMENTS ON IMPACT	ACTION REQUIRED
	n/a	+ve	no	-ve		
Change in number of Military or civilian jobs in an area (or change in grade profile)						
Change in numbers of people (who may spend money locally) based in an area						
Change in amount of equipment or materials procured						
Change in opportunity to procure materials or services locally						
Change in opportunity to enhance the skills of staff or wider communities						
Change in training activity or land use that may alter livelihood of estate tenants or other commercial users of the estate						
Other economy and employment issues						

**STAKEHOLDERS CONSULTED AND REFERENCES USED**

**SUSTAINABILITY SCORE FOR THIS THEME**

A	B	C	D	E

**PRIORITY ACTIONS AND RESOURCES REQUIRED**



# EVALUATION OF REQUIREMENT FOR STATUTORY ASSESSMENTS

Do the following apply to the project or proposal?	Yes/No
Will your proposal or project subject to Planning approval under either the NOPD (Circular 18/84) or conventional Planning process?	
Have you consulted with the Local Planning Authority (which may be the National Park Authority in designated areas)?	

## ENVIRONMENTAL IMPACT ASSESSMENT

See Chapter Nine for full information on legislation and requirements

Do the following regulations apply to the project or proposal?	Yes/No
Town and Country Planning (EIA) Regulations 1999 (Schedule 1 or Schedule 2 developments)	
Environmental Impact Assessment (Uncultivated Land and Semi-Natural Areas) Regulations 2001	
Environmental Impact Assessment (Forestry) Regulations	
Environmental Impact Assessment (Land Drainage Improvement Works) Regulations 1999	
Harbour Works (Environmental Impact Assessment) Regulations 1999	
Environment Act 1995 – National Parks EIA requirements under Circular 12/96	
Other EIA Regulations	

## APPROPRIATE ASSESSMENT

See Chapter Ten for full information on legislation and requirements

Do the following apply to the project or proposal?	Yes/No
Likely to have a significant effect on a Special Area of Conservation (under EU Habitats and Species Directive)	
Likely to have a significant effect on a Special Protection Area for Birds (under EU Birds Directive)	
Likely to have a significant effect on a Ramsar site of International Wetland Importance (Ramsar Convention, Planning Policy)	
Have you consulted (via Defence Estates) with the relevant Statutory Body? (English Nature, Countryside Council for Wales, Scottish Natural Heritage, Environment and Heritage Service NI)	

## ARCHAEOLOGICAL EVALUATION

See Guidance Note for Theme J in Chapter Six for full policy and requirements.

Do the following apply to the project or proposal?	Yes/No
Planning Policy Guidance 15 and 16, requiring archaeological evaluation before planning approval is granted	
Have you consulted (via Defence Estates) the County Archaeologist or relevant Statutory Body (English Heritage, CADW, Historic Scotland, Environment and Heritage Service NI)	

## SUSTAINABILITY APPRAISAL MATRIX

THEME AND OBJECTIVES	SCORE						COMMENTARY	ACTION REQUIRED
	n/a	A	B	C	D	E		
<b>A – Climate Change and Air Quality</b> Minimise greenhouse gas emissions and pollution of air with gases and particulates.								
<b>B – Travel and Transport</b> Minimise amount of travelling required, particularly via roads and private cars.								
<b>C – Energy Consumption</b> Minimise total energy consumption and support the use of renewable energy rather than fossil fuel sources.								
<b>D – Noise and Vibration</b> Minimise disturbance to people and wildlife from noise and vibration.								
<b>E – Water and Drainage</b> Reduce total water consumption and minimise risks of water pollution and flooding.								

THEME AND OBJECTIVES	SCORE						COMMENTARY	ACTION REQUIRED
	n/a	A	B	C	D	E		
<b>F – Waste</b> Reduce waste production and promote reuse, recovery and recycling.								
<b>G – Land, Buildings and Construction Materials</b> Minimise expansion onto 'green' sites and explore refurbishment before building afresh, design sustainability features into new facilities and promote recycling of materials.								
<b>H – Geology and Soils</b> Minimise loss and disturbance of soil and substrates. Minimise soil contamination risks and remediate previously degraded land.								
<b>I – Biodiversity and Nature Conservation</b> Seek to protect habitats and species and promote opportunities to enhance and conserve wildlife.								
<b>J – Archaeology and Historic Environment</b> Protect and enhance features of archaeological interest, the historic environment and cultural heritage.								

THEME AND OBJECTIVES	SCORE					COMMENTARY	ACTION REQUIRED
	n/a	A	B	C	D		
<b>K – Landscape and Townscape</b> Protect and enhance the character and appeal of landscapes and townscapes.							
<b>L – Health, Safety and Crime</b> Maximise opportunities to promote healthy, safe and secure environments in which to live and work.							
<b>M – Communities and Social Values</b> Promote community development and relationships within MOD, and with adjacent populations. Involve communities in decision-making and minimise disturbance.							
<b>N – Infrastructure and Amenities</b> Maximise opportunities for all sectors of the public to use MOD amenities. Minimise disturbance to local populations when using public facilities.							
<b>O – Economy and Employment</b> Maintain and encourage a diverse and thriving economy, particularly at local and regional level.							
Is there a requirement for Statutory Assessment?	EIA		Appropriate Assessment		Archaeological Evaluation		



# **The Sustainability Appraisal Handbook**

*For the MOD Estate*

*Section Three:*  
***Supplementary  
Information***



# CHAPTER 9: ENVIRONMENTAL IMPACT ASSESSMENT

## 9.1 INTRODUCTION

Environmental Impact Assessment (EIA) helps ensure that the likely environmental effects of a new development are fully understood and accounted for in design and decision-making processes. The outcome of an EIA is an Environmental Statement (ES) that is submitted with a Planning application or Notice Of Proposed Development (NOPD). EIAs predict environmental impacts that might arise from a development, determine their significance and identify means to mitigate them.

High level Sustainability Appraisals (SA) may identify a requirement for Statutory EIA for certain projects. Whilst the initial SA may be completed in-house by the project team, EIAs often require support from internal specialists or external consultants, require public and statutory consultation and standard procedures to be followed to compile the Environmental Statement.

This chapter introduces statutory EIA, describes the underlying legislation and the types of project affected and illustrates the stages to go through to complete the ES. Defence Estates Technical Bulletin 01/12 on EIA also provides more detail on EIA triggers and processes, with an emphasis on how it links into the Planning process.

## 9.2 LEGISLATIVE TRIGGERS FOR EIA

- 9.2.1 Requirements for EIA originally stemmed from the EC Directive 85/337EEC on *The assessment of the effects of certain public and private projects on the environment* which came into effect in 1988 and was amended by Directive 97/11/EC in March 1999. The EC Directives have been underpinned in UK law by the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999 (as amended in 2000).
- 9.2.2 Legislation can also trigger EIA for specific activities such as pipeline works, harbour works, afforestation, land drainage and use of semi-natural or uncultivated land. The Environment Act 1995 also assigns National Park Authorities the responsibility of Local Planning Authority in National Parks and EIAs must be undertaken for new, renewed or intensified MOD activities within them. Figure 9.1 presents the UK EIA legislation, with home-nation iterations, and each can be viewed in full on the Stationery Office website: <http://www.legislation.hmsso.gov.uk>
- 9.2.3 MOD is about to lose its Crown Exemption from the full rigours of the Town and Country Planning process. The Department has increasingly mirrored the Planning process (with its associated EIA requirements) via NOPDs under the terms of the 18/84 Circular, however, in future MOD will be bound by the conventional Planning and EIA frameworks alongside private or commercial developers.

Fig. 9.1: Table of UK Environmental Impact Assessment legislation

### **Town and Country Planning**

- Statutory Instruments 1999 No. 293 The Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999;
- Statutory Instrument 2000 No. 2867 The Town and Country Planning (Environmental Impact Assessment) (England and Wales) (Amendment) Regulations 2000;
- Scottish Statutory Instrument 2002 No. 324 The Environmental Impact Assessment (Scotland) Amendment Regulations 2002;
- Statutory Rules of Northern Ireland 1999 No. 73 The Planning (Environmental Impact Assessment) Regulations (Northern Ireland) 1999.

### **Uncultivated land and semi-natural areas**

- Statutory Instrument 2001 No. 3966 The Environmental Impact Assessment (Uncultivated Land and Semi-natural Areas) (England) Regulations 2001;
- Welsh Statutory Instrument 2002 No. 2127 (W.214) The Environmental Impact Assessment (Uncultivated Land and Semi-Natural Areas) (Wales) Regulations 2002;
- Statutory Rule 2001 No. 435 Environmental Impact Assessment (Uncultivated Land and Semi-Natural Areas) Regulations (Northern Ireland) 2001;
- Scottish Statutory Instrument 2002 No. 6 The Environmental Impact Assessment (Uncultivated Land and Semi-Natural Areas) (Scotland) Regulations 2002.

### **Forestry**

- Statutory Instrument 1999 No. 2228 The Environmental Impact Assessment (Forestry) (England and Wales) Regulations 1999;
- Scottish Statutory Instrument 1999 No. 43 The Environmental Impact Assessment (Forestry) (Scotland) Regulations 1999;
- Statutory Rule 2000 No. 84 Environmental Impact Assessment (Forestry) Regulations (Northern Ireland) 2000;
- Statutory Rule 2002 No. 249 Environmental Impact Assessment (Forestry) (Amendment) Regulations (Northern Ireland) 2002.

### **Land drainage**

- Statutory Instruments 1999 No. 1783 The Environmental Impact Assessment (Land Drainage Improvement Works) Regulations 1999;
- Statutory Rule 2001 No. 394 Drainage (Environmental Impact Assessment) Regulations (Northern Ireland) 2001.

### **Harbour works**

- Statutory Instrument 1999 No. 3445 The Harbour Works (Environmental Impact Assessment) Regulations 1999;
- Statutory Instrument 2000 No. 2391 The Harbour Works (Environmental Impact Assessment) (Amendment) Regulations 2000.

### **Pipelines**

- Statutory Instrument 2000 No. 1928 The Pipe-line Works (Environmental Impact Assessment) Regulations 2000;

### **Roads and Highways**

- Statutory Instrument 1999 No. 369 The Highways (Assessment of Environmental Effects) Regulations 1999;
- Statutory Rule 1999 No. 89 Roads (Environmental Impact Assessment) Regulations (Northern Ireland) 1999.

### **Electricity works**

- Statutory Instrument 2000 No. 1927 The Electricity Works (Environmental Impact Assessment) (England and Wales) Regulations 2000.

### **Nuclear decommissioning**

- Statutory Instrument 1999 No. 2892 Nuclear Reactors (Environmental Impact Assessment for Decommissioning) Regulations 1999.

### **Fish farming**

- Statutory Instrument 1999 No.367 The Environmental Impact Assessment (Fish Farming in Marine Waters) Regulations 1999.

### **National Parks**

- Environment Act, 1995, which states that new, renewed or intensified use of land in the National Parks for defence purposes should be subject to EIA (Department of the Environment Circular 12/96).

### 9.3 CATEGORIES OF DEVELOPMENT THAT REQUIRE A FULL EIA

9.3.1 The Town and Country Planning Regulations denote which developments require an EIA. Whilst a summary of the development types is given below, it is important to refer to the Regulations (as well as other relevant specialist EIA legislation in Figure 9.1) for further detail of specific aspects or size thresholds that trigger an assessment. 'Schedule 1' developments will *always* require an EIA, but it is unlikely that the MOD is regularly involved in such projects. 'Schedule 2' developments *may* require an EIA if an initial screen indicates that the likely impacts will be significant.

9.3.2 Schedule 1 activities include:

- Crude oil refineries;
- Thermal power stations and other combustion installations and nuclear power stations/reactors;
- Installations that reprocess, produce, enrich, dispose of or store nuclear fuel, irradiated fuel and radioactive waste;
- Installations for smelting cast iron or steel, or producing other non-ferrous metals by metallurgical, chemical or electrolytic processes;
- Installations for the extraction of asbestos and for the processing and transformation of asbestos and products containing asbestos;
- Integrated chemical installations that manufacture e.g. organic and inorganic chemicals, chemical fertilizers, plant health products or biocides, pharmaceuticals or explosives on an industrial scale;
- Long distance railways, airports with runways of greater than 2,100m, new motorways and express roads, >10km of widened or straightened road of four lanes;
- Inland waterways and ports or coastal trading ports and loading piers for vessels of over 1,350 tonnes;
- Waste disposal installations for the incineration, chemical treatment or landfill of hazardous waste;
- Waste disposal installations for the incineration or chemical treatment of non-hazardous waste;
- Groundwater abstraction or artificial groundwater recharge schemes;
- Works for transfer of water resources across river basins;
- Waste water treatment plants;
- Extraction of petroleum and natural gas for commercial purposes;
- Dams and other installations designed for the holding back or permanent storage of water;
- Pipelines for the transport of gas, oil or chemicals;
- Installations for the intensive rearing of poultry or pigs;
- Installations producing paper and board or timber pulp;
- Quarries and open-cast mining;
- Installations for storage of petroleum, petrochemical or chemical products.

### 9.3.3 Schedule 2 activities include:

- Agriculture and aquaculture e.g. on uncultivated land, irrigation and drainage, intensive livestock or fish farming and reclamation of land from the sea;
- Extractive industries, e.g. quarries, open cast and underground mining, peat extraction, fluvial dredging and deep drilling;
- Energy industry, e.g. electricity, hot water and steam production, gas transport and storage, coal storage and processing, storing or processing radioactive waste, generation of hydroelectric or wind energy;
- Metal production and processing, e.g. iron, steel, aluminium, precious metals;
- Mineral industry, e.g. coke ovens, production of cement, asbestos, glass, fibres, bricks and ceramics;
- Chemical industry, e.g. treatment and production of chemicals, production of pesticides, pharmaceuticals, paints, varnishes, peroxides and storage of petrochemical products;
- Food industry, e.g. manufacture of fats, confectionery, sugar, starch, fish meal or oil, installations for packing and canning, brewing and malting or animal slaughter;
- Textile, leather, wood and paper production, including tanneries and cellulose processing;
- Rubber industry;
- Infrastructure projects, e.g. industrial estate development, urban development projects (e.g. car parks, shopping centres, sports stadia, leisure centres, cinemas), intermodal transshipment facilities and terminals, railways, airfields, roads, harbours and ports, inland waterway and aqueduct construction, oil and gas pipelines, coastal protection, groundwater abstraction and motorway service areas;
- Other projects, including racing and test tracks for motorised vehicles, waste disposal installations, waste water treatment, sludge deposition, storage of scrap iron, test benches for engines, turbines or reactors, installations for recovery of destruction of explosives, manufacturing mineral fibres and knackers yards;
- Tourism and leisure, e.g. skiing infrastructure, marinas, suburban/rural holiday villages and hotels, permanent camp/caravan sites, golf courses.

9.3.4 The screening process for determining whether a Schedule 2 activity requires an EIA involves considering the characteristics of the development, characteristics of the potential impact and factors associated with the proposed location.

9.3.5 Characteristics of the development that could trigger an EIA include:

- Size;
- Cumulation with other developments;
- Use of natural resources;
- Production of waste;
- Pollution and nuisance;
- Risk of accidents.

9.3.6 Characteristics of the potential impact that could trigger an EIA include:

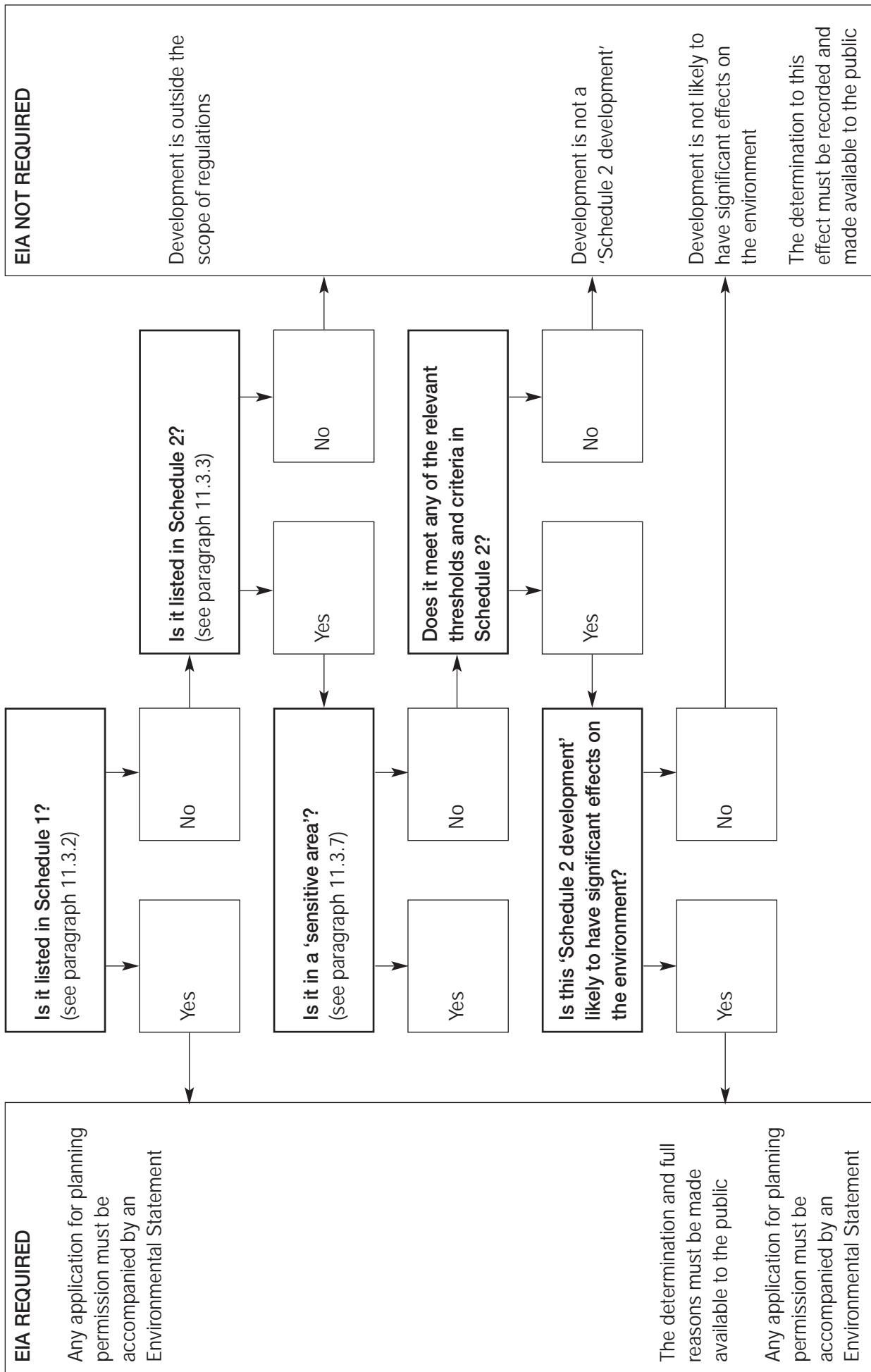
- Extent (geographical area or size of population affected);
- Trans-frontier consequences;
- Magnitude and complexity;
- Probability;
- Duration, frequency and reversibility of the impact.

9.3.7 Factors and sensitivities associated with proposed location that could trigger an EIA include:

- Relation to existing land use;
- Relative abundance, quantity and regenerative capacity of natural resources in the area;
- Absorption capacity of the natural environment, paying particular attention to:
  - Wetlands;
  - Coastal zones;
  - Mountain and forest areas;
  - Nature reserves and parks;
  - Areas designated under the EC Wild Birds Directive of the EC Habitats and Species Directive;
  - Areas in which the environmental quality standards laid down in community legislation have already been exceeded;
  - Densely populated areas;
  - Landscapes of historical, cultural or archaeological significance e.g. National Parks or Areas of Outstanding Natural Beauty.

9.3.8 Defence activities and infrastructure (especially training activities) can have unusual or complex impacts and carry a high level of public sensitivity and scrutiny. It is essential to carry out a screening exercise and consult with the local authority at the earliest opportunity so that any required assessment can be prepared for and commissioned. This minimises the risk of planning refusal and project delay. It is also becoming good practice for developers to voluntarily commission an EIA irrespective of a firm legislative trigger. A SA may constitute the earliest stage of such a voluntary exercise, the expansion of which would emerge through consultation with the local authority and relevant stakeholders. Figure 9.2, overleaf, illustrates the screening process.

Fig. 9.2: Process to establish whether an EIA is required



## **9.4 WHEN THE EIA MUST BE UNDERTAKEN**

- 9.4.1 Environmental Statements (ES) must accompany the planning application and the EIA process should begin at the same time as site selection and (where relevant) process selection. The ES must also include a review of alternative options for the project, with an indication of the main reasons for the final choice and how environmental effects were taken into account.
- 9.4.2 The developer should consult with the LPA and significant stakeholders well in advance of the planning application. If the EIA is conducted in parallel with the design of the development, then environmental considerations and mitigation measures can be incorporated into the project and decisions can become more informed. In general, if the developer is more proactive in terms of early identification and mitigation of impacts, there will be a better relationship with the LPA and the final approval stages should flow more smoothly.

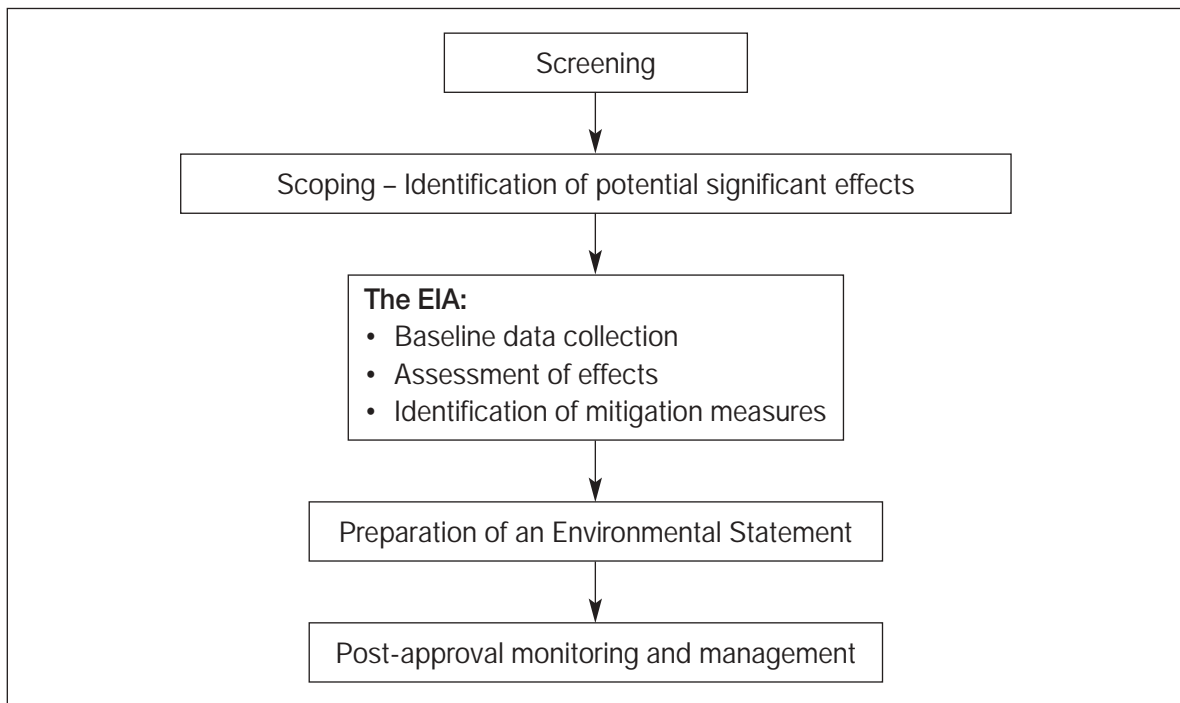
## **9.5 RESPONSIBILITY FOR THE EIA AND PARTIES THAT MUST BE INVOLVED**

- 9.5.1 Responsibility for commissioning and managing an EIA lies with the Project Manager and Sponsor. If a PFI or Prime Contractor is engaged to deliver the development then the MOD as project owner should still have responsibility for funding and managing the EIA unless the contract specifically transfers the EIA process and funding to the contractor. If the latter is the case, it should still be the responsibility of the IPT to ensure that the contractor delivers an adequate EIA to support the Planning application. DE Environmental Support Team can advise on choosing consultants and setting up statements of requirements.
- 9.5.2 Whilst regular liaison with the LPA is a mandatory component of the EIA process, the Regulations also emphasise the need for consultation with other organisations with an interest in potential environmental effects of the proposal. Consultation with specialist interest groups and sectors of the community can uncover a great deal of local knowledge and reveal which environmental impacts are likely to cause greatest concern. Consultation is essential throughout the EIA process, but particularly in the scoping stage when determining potentially significant impacts.
- 9.5.3 Statutory consultees that must be involved early on include organisations such as, but not restricted to:
- Environment Agency/Countryside Agency/English Nature/English Heritage/Local Planning Authority;
  - Scottish Environmental Protection Agency (SEPA)/Scottish Natural Heritage/Historic Scotland/Scottish Executive;
  - Countryside Council for Wales (CCW)/Welsh Historic Monuments (CADW)/National Assembly for Wales;
  - Northern Ireland Environment and Heritage Service (EHS)/Northern Ireland Executive.
- 9.5.4 Consultation with the public from the earliest stage also helps to inform the study and generate a good relationship with the local community, minimising risk of public objections and adverse publicity.

## **9.6 THE PRINCIPAL EIA STAGES**

- 9.6.1 EIA should be a systematic process and the Government has produced good practice guidance, with a sequence of key stages that should be followed.

Fig. 9.3: Main stages of the EIA process



### Screening

9.6.2 The Screening stage determines the need for an EIA, which can be requested at any stage prior to the granting of consent. The developer is likely to know if the activity is a Schedule 1 project that automatically requires an assessment, and may have a good idea of whether it is a Schedule 2 project that might require an assessment. In the case of the latter, consultation with the LPA (request for a 'screening opinion') will determine whether EIA is needed due to project size, the nature of the impact and the sensitivity of the receiving area.

9.6.3 All projects should undergo some form of initial screen to identify likely areas of impact. If the activity does not fall within the scope of the Regulations, it is still MOD policy to appraise or assess all new projects and training activities. SA can act as an early mechanism for helping screen whether an EIA is needed and begin to scope which effects may be significant.

### Scoping

9.6.4 The Scoping stage involves the identification of potential impacts that are significant in terms of their effects on the environment and focuses the assessment onto the more important issues. Some preparatory work will be required to define the works involved and to identify possible environmental effects. A scoping report is usually produced at this stage, illustrating:

- Details of the proposed development;
- Likely areas of significant environmental impact that the EIA will focus on in the impact prediction phase;
- The extent of the baseline data that will need to be collected for more detailed study;
- The methodology that will be used to assess the potential impacts;
- Preliminary suggestions for mitigation measures.

9.6.5 The EIA Regulations include a provision to seek a formal opinion from the LPA on the scope of an ES, known as a 'scoping opinion'. This provision allows the developer to be clear about what the LPA considers the main effects of the development are likely to be and the topics on which the ES should focus.

## Baseline data collection

- 9.6.6 Collection of data informs the prediction of impacts. The project description outlines characteristics such as the physical extent of the development, resource use and the generation and disposal of waste, and focuses on particular characteristics that are likely to produce significant impacts. The baseline study usually comprises a desk survey, compiling existing information about the site, and field surveys collecting new information about the site.

## Prediction of impacts and their significance

- 9.6.7 Impact prediction can take place once the project characteristics and baseline survey data have been collated. Impact prediction involves looking at how the project characteristics interact with the site baseline characteristics and identifying any changes that the presence of the project will cause. Factors that are usually considered at this stage include:
- Whether there is an impact, and if it is a positive or negative change;
  - The magnitude of the impact;
  - The significance of the impact;
  - Whether the impacts are direct (e.g. cutting down trees to make space for buildings) or indirect (e.g. encouraging other developments to the area);
  - Whether the impacts are temporary or permanent, or cumulative.
- 9.6.8 Varying levels of uncertainty can affect the prediction process and discussion between the developer and the LPA can lead to parameters being set to outline permitted levels of uncertainty upon which decisions can be based.

## Identification of mitigation measures

- 9.6.9 Mitigation methods can be considered once significant impacts have been identified. Mitigation measures can be built into the project to reduce or ameliorate the predicted negative impacts on the environment.
- 9.6.10 The hierarchy of mitigation levels to strive for is as follows:
- **Enhance** conditions so environmental quality is better than that before development. Enhancement is the optimal solution.
  - **Avoid** impacts so there is no damage or disturbance that requires attention.
  - **Reduce** impacts so damage and resulting rectifying actions are minimised.
  - **Repair** any remaining damage that cannot be avoided.
  - **Compensate** for damage that cannot be avoided or mitigated. For example if a hectare of important habitat is to be destroyed, then a hectare of habitat could be re-created on a suitable patch of bare ground, so that overall habitat loss is nil. Compensation should be a last resort.
- 9.6.11 They may be unique for each development but broad categories of methods include:
- Noise abatement measures (such as earth banks or soundproof barriers);
  - Planting of trees to obscure views of the development;
  - Incorporating cycle sheds or bus lanes to encourage alternatives to the private car;
  - Treatment of water used in processes before it is discharged into watercourses;
  - Recreation of a lost habitat somewhere else on site, or in the locality.

## Preparation of Environmental Statement (ES)

- 9.6.12 The ES is the report that summarises the information gathered and actions taken in each of the EIA stages. The ES is presented to the LPA along with the planning application when planning approval is finally sought. Along with the final technical report, it is essential that a non-technical summary is provided, summarising the main issues in the form of a leaflet that is widely available to the public. The content and length of the ES will vary according to the development but usually ranges from 50 to 150 pages plus appendices. The Regulations require the following information to be included in an ES:
- A description of the development (incorporating land use requirement, the operational processes, decommissioning stages and expected resource use or emissions);
  - An outline of the main alternatives that led to the choice of site, activity or process (including environmental considerations);
  - Description of the environment that could be affected by the development (e.g. population, flora and fauna, soil and geology, water, air, architecture and archaeological heritage, landscape and other relevant environmental features), referring to statutory provisions for environmental protection;
  - The assessment of the effects on humans and buildings, flora, fauna, geology, land, water, air and climate, along with other indirect effects;
  - Proposed mitigation measures;
  - Risks and hazards (or the potential for accidents) associated with the development (referring to the project's overall risk assessment).
- 9.6.13 Efficient preparation of an ES depends on early definition of the scheme to be subjected to EIA. Known as the 'design freeze' this should cover the following:
- Purpose of the development (processes and operational characteristics);
  - Scheme layout;
  - Scheme components (buildings, storage areas, raiing off site, etc.);
  - Construction arrangements (phasing, plant, earth moving, etc.).
- 9.6.14 EIAs and ESs are only applicable to the project characteristics at the time of assessment. If a project changes significantly, its impacts will change so the assessment must be revised accordingly before approval can be granted.
- 9.6.15 Once the ES has been submitted, it is reviewed by the LPA to ensure that is adequate enough to support the NOPD or planning application. The LPA have 16 weeks to make a decision on a development with an EIA (in contrast to the usual 8 week period for a planning application). There must also be public consultation on the ES. The LPA can request the provision of further information before determining the application if the EIA is not comprehensive enough. However, effective consultation throughout should minimise late surprises.
- 9.6.16 Monitoring is recommended to support the EIA and ensure that it becomes a long-term element of the development, laying the foundation for an environmental management programme rather than just occurring as an initial study to obtain planning permission. Monitoring proposals should be outlined in the ES to capture the commitment to long-term study and management of impacts as the development progresses. Monitoring helps identify:
- if mitigation or management measures have been implemented;
  - the accuracy of impact predictions;
  - cause-effect linkages and further data, to improve accuracy of future EIAs.

## 9.7 COST OF AN EIA

- 9.7.1 The DE Technical Bulletin on EIA has summarised likely costs in undertaking an EIA. If consultants are brought in for an initial screen to identify requirements for an EIA (initial appraisal or the preliminary environmental report) costs could range from £500 to £5,000. In terms of the full EIA, costs will vary according to the size and type of development and the sensitivity of the site but may range from £20,000 for small projects to over £250,000 for large projects. The cost of the EIA to identify effects of SDR proposals to locate extra units and develop barrack areas around Salisbury Plain is likely to reach £1,000,000. About 10% of the EIA budget should be allocated for the scoping phase (more for small projects, possibly less for large developments).
- 9.7.2 Although initial costs may seem high, there could be far greater costs further into the development if an EIA is not completed adequately, e.g. delays in the planning process, public and statutory opposition, poor relations with stakeholders, expensive litigation or clean-up measures.

## 9.8 REFERENCES AND FURTHER INFORMATION

Defence Estates (2001) Technical Bulletin 01/12 – *Environmental Impact Assessment*, Estates Development Unit, Defence Estates, Sutton Coldfield.  
(Draft, to be published on the Defence Estates Intranet).

DETR (2000) *Environmental Impact Assessment – A Guide to Procedures*. (Available on: <http://www.planning.dtl.gov.uk/eia/guide/index.htm>)

DETR (1995) *Preparation of Environmental Statements for Planning Projects that Require Environment Assessment – A Good Practice Guide*.

Environmental Impact Assessment (Scotland) Regulations 1999 (Available on: <http://www.scotland-legislation.hmso.gov.uk/legislation/scotland/ssi1999/19990001.htm>)

Glasson, J., Therivel, R., Chadwick, A. (1999) (2nd edition): *Introduction to Environmental Impact Assessment: Principles, Procedures, Practice and Prospects*. UCL Press, London.

The Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999. (Available on: <http://www.hmso.gov.uk/si/si1999/19990293.htm>).



# CHAPTER 10: APPROPRIATE ASSESSMENT

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## 10.1 INTRODUCTION

Sustainability Appraisal, using the methodology outlined in this handbook, should help identify if the project or proposal will have a likely significant impact on a European designated site or Ramsar site. If so, an Appropriate Assessment will be required in order to identify, quantify and mitigate the impacts before approval can be given to proceed. This Chapter:

- introduces the legislation and circumstances where Appropriate Assessment may be needed;
- illustrates the stages to go through;
- highlights the organisations that need to be consulted.

## 10.2 WHAT IS APPROPRIATE ASSESSMENT?

- 10.2.1 Appropriate Assessment (AA) is required under the EC 'Habitats' Directive (92/43/EEC) and the UK 'Habitats' Regulations for any plan or project likely to have significant effect on an internationally important site for nature conservation.
- 10.2.2 AA is one key stage of the assessment of plans and projects under the UK Habitats Regulations. All stages are discussed here, and are summarised in the Process Map in Figure 10.2. Further information can be found in the References, in particular the Habitats Regulations Guidance Notes produced by English Nature and the EC Managing Natura 2000 Guidance Notes.
- 10.2.3 AA differs from SEA and EIA in that it only considers the effects of the proposal on the nature conservation objectives and features for which the site was designated, not all environmental consequences. EIAs are usually produced by developers, but AAs are produced by the decision-making, or competent, authority (MOD).
- 10.2.4 The legislation does not specify how an AA should be undertaken, but it should be appropriate and sufficient. For simple plans or projects, a simple and brief assessment may be appropriate. Some plans and projects may require comprehensive scientific investigation before a conclusion can be reached.

## 10.3 INTERNATIONALLY IMPORTANT SITES FOR NATURE CONSERVATION

- 10.3.1 Internationally important sites for nature conservation are selected and designated on scientific criteria to protect certain species, habitats and physical features. Responsibility for site selection and the protection of the sites falls to the relevant government department for England, Scotland, Wales or Northern Ireland, and their statutory advisers, the national nature conservation agencies. Sites are protected as soon as their international importance is recognised by notification as 'possible', 'proposed' or 'candidate' sites. MOD databases featuring such protected include the Propman Master Index, the Core Sites Database and DE's Gold mapping resource.

### Special Protection Areas (SPAs)

- 10.3.2 SPAs are classified under the EC Birds Directive to ensure the survival and reproduction of certain wild bird species that are in danger of extinction, vulnerable to habitat change, rare, or otherwise requiring attention; and for the protection of important habitats for regularly occurring migratory species.

## Special Areas of Conservation (SACs)

10.3.3 SACs are designated under the EC Habitats Directive to protect habitat types that are in danger of disappearance, have a small natural range, or are highly characteristic of the region; and to protect species that are endangered, vulnerable, rare, or endemic and requiring particular attention. In the UK, sites (or parts of sites) below high water are also called European Marine Sites. An amendment to the Directive will extend SACs to offshore sites and protect mobile species in EU waters.

## Wetlands of International Importance (Ramsar Sites)

10.3.4 Wetlands of International Importance are designated under the Ramsar Convention (1971) to protect biological and physical features of wetlands, with special attention given to waterfowl habitats. Ramsar sites often overlap with cSACs and SPAs and UK Planning policy determines that they should be accorded the same importance when developments are proposed.

## 10.4 LEGISLATION UNDERPINNING APPROPRIATE ASSESSMENT

10.4.1 The following statutes and policy underline the need for AA.

### *The EU Habitats and Species Directive*

European Community Council Directive on the Conservation of Natural Habitats and Wild Fauna and Flora (92/43/EEC). Special Areas for Conservation.

### *The EU Wild Birds Directive*

European Community Council Directive on the Conservation of Wild Birds (79/409/EEC) Special Protection Areas.

– Interpreted in England, Scotland and Wales by:

*The Habitats Regulations* – Statutory Instrument 1994 No. 2716 The Conservation (Natural Habitats &c.) Regulations 1994.

– Interpreted in Northern Ireland by:

Statutory Rule 1995 No. 380 The Conservation (Nature, Habitats etc) Regulations 1995.

Sites designated under the Ramsar Convention on Wetlands of International Importance are protected by UK SSSI legislation and under Planning policy (Planning Policy Guidance (PPG) 9), which mandates the treatment of Ramsar sites in the same manner as sites protected under the Birds and Habitats Directives.

## 10.5 RELEVANCE TO THE MOD

10.5.1 The MOD currently owns land on, and has direct management responsibility for over 150 potential or classified SPAs, SACs or Ramsar Sites. In addition, there are a number of SPAs, SACs and Ramsar sites adjacent or close to MOD sites, or where the MOD has licence to train, or which may otherwise be affected by MOD activities.

10.5.2 New sites continue to be designated. Whilst Defence Estates holds the definitive database of designated sites in which MOD has an interest, it is recommended that the local offices of the national nature conservation agencies are also contacted to ensure that all potentially affected sites are considered.

10.5.3 The UK Government and devolved administrations have legal obligations to protect SPAs, SACs and Ramsar Sites under European legislation (the Habitats and Birds Directives) and commitments under international nature conservation conventions (the Ramsar, Bern, Bonn and Rio Biodiversity Conventions). The relevant government departments, local planning authorities and national nature conservation agencies must have regard to obligations when considering applications for planning permission or applications for other consents or authorisations from the MOD.

- 10.5.4 As a competent authority, the MOD must complete any necessary 'Judgement of Likely Significant Effect' and any required AA for its own plans or projects, in consultation with the relevant authorities. If a third party proposes a project or plan that could affect an international site on MOD land, that third party must provide any necessary information to the MOD. The MOD must then complete any necessary Judgement of Likely Significant Effect or AA, in consultation with the relevant authorities. Consultants may be appointed to conduct this work on the MOD's behalf, but the MOD retains overall responsibility.
- 10.5.5 When MOD enters into Private Partnerships, this duty may be delegated to the partner as part of the overall risk transfer package. It is expected that different partnering agreements will vary, but whatever the arrangement, it is crucial that roles and responsibilities under the Habitats Directive are clearly defined.
- 10.5.6 Consultation should begin at the earliest possible opportunity. The formal MOD policy for liaison relating to SPA, SACs and Ramsar Sites can be found in:
- The Memorandum of Understanding between the Ministry of Defence and the relevant government departments for England, Scotland, Wales and Northern Ireland.
  - The four Declarations of Intent between the Ministry of Defence and the relevant national nature conservation agencies for England, Scotland, Wales and Northern Ireland.
- 10.5.7 Failure to comply with the procedures for assessing plans and prospects under the Habitats Regulations can result in objection to Notices of Proposed Developments (NOPDs), refusal of planning permission, a potentially unlimited fine or Judicial Review. This has happened in the past.

## **10.6 WHAT TYPES OF ACTIVITY MAY REQUIRE APPROPRIATE ASSESSMENT?**

- 10.6.1 AA needs to be undertaken for any plan or project which, either alone or in combination, is likely to have significant effect on the special features of a SPA, (c)SAC or Ramsar site. This can encompass both development proposals and changes to land management regimes e.g. public access levels or grazing patterns.

### **Nature Conservation Management Plans and Projects**

- 10.6.2 AA is not normally required for nature conservation plans and projects, but may be required in certain circumstances. Management plans that include conservation objectives may have other, non-conservation components that need assessing. Habitats Regulations Guidance Note 5 will give further information.

### **Permitted Development**

- 10.6.3 Activities that would normally be considered Permitted Development are subject to Determination of Likely Significant Effect (and AA if required) and existing consents or rights can be reviewed and potentially modified. Information is given in Habitats Regulations Guidance Note 6.

### **Distant, Indirect and Temporary Effects**

- 10.6.4 Likely significant effects may occur even if the plan or project is some distance away from the SPA, (c)SAC or Ramsar site and may be direct or indirect, temporary or permanent. Direct effects include habitat destruction and disturbance but distant effects may include pollution carried by air or water. Construction of a new barracks near a site may cause temporary direct effects during erection, but longer-term indirect effects from intensified backdoor training by the extra personnel.

### **'Alone or in Combination'**

- 10.6.5 A single plan or project may not itself have a significant effect on a SPA, (c)SAC or Ramsar site, but may do so in combination with other plans and projects, which may include non-MOD proposals. Guidance on the scope of 'Alone or in Combination' is given in Habitats Regulations Guidance Note 4.

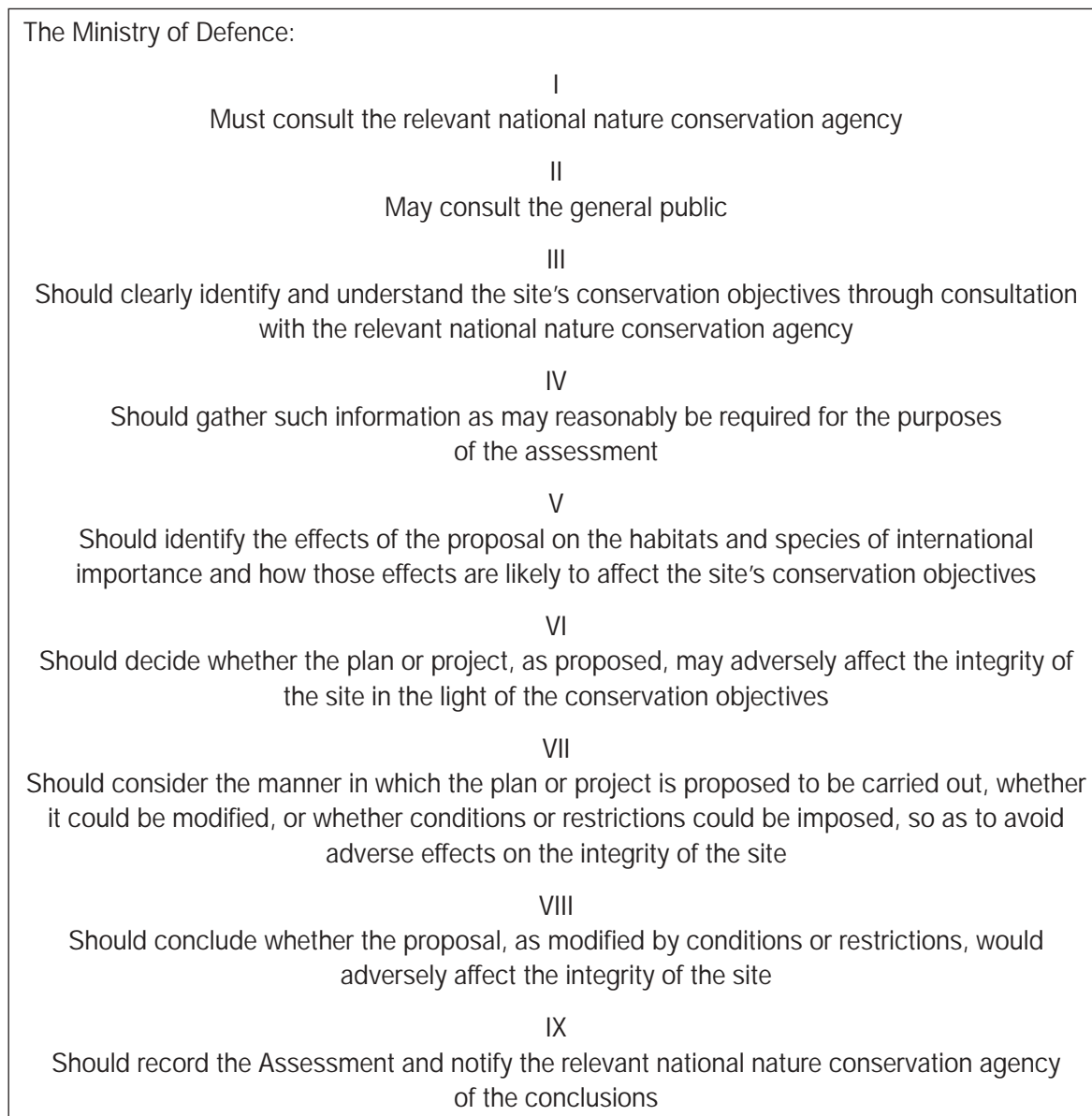
## **Determination of Likely Significant Effect**

- 10.6.6 Determination of Likely Significant Effect under the Habitats Regulations is the first stage in consideration of plan or projects, and is discussed at length in the Habitats Regulations Guidance Note 3. The environmental appraisal checklist (Chapter Eight, Theme I) should identify whether the proposed plan or project could have any effect on a SPA, SAC or Ramsar site.
- 10.6.7 When judging if a plan or project is likely to have significant effect, the MOD should:
- Consider the special features or objectives of the SPA, (c)SAC or Ramsar Site;
  - Consider all aspects of the proposal, alone and in combination with other proposals;
  - Identify any likely significant effect of the proposal on the SPA, (c)SAC or Ramsar Site for which an AA will be required.
- 10.6.8 The determination and judgement of likely significant effect is expected to be a 'coarse filter' to identify which proposals will require an AA. In accordance with the 'precautionary principle', where it is uncertain whether or not a plan or project is likely to have a significant effect, AA will be required. The relevant national nature conservation agency should be consulted at the earliest opportunity and an audit trail must be recorded of all relevant correspondence and decisions. An outline record of Judgement of Likely Significant Effect is given in Figure 10.3.

## **10.7 WHAT SPECIFIC ISSUES NEED TO BE CONSIDERED**

- 10.7.1 If an AA is required, its scope should be guided by the Judgement of Likely Significant Effect. There are two factors to be considered:
- Nature conservation evaluation of the features affected;
  - Assessment of ecological impact of the proposal.
- 10.7.2 The key steps in an AA are outlined in the box opposite. This is adapted from Habitats Regulations Guidance Note 1, which explains the steps in greater detail. An audit trail must be recorded of all relevant correspondence and decisions. An outline record of an AA is given in Figure 10.4.

Fig. 10.1: The Key Steps in an Appropriate Assessment



## 10.8 WHAT HAPPENS IF CONCLUSIONS ARE UNFAVOURABLE?

10.8.1 In many cases the AA process can identify restrictions, modifications or mitigation works to avoid or reduce negative effects to a level at which there will be no adverse effect on the SPA, SAC or Ramsar site. Sometimes, this is not possible. In accordance with the precautionary principle, where it is uncertain whether adverse effects will occur (due to financial, operational or ecological constraints on the assessment), one must:

- Consider alternative solutions that do not have an adverse impact; or
- Declare Imperative Reasons of Overriding Public Interest; or
- Develop compensation measures.

10.8.2 If it can be demonstrated in an auditable fashion that there are no feasible alternative solutions, the competent authority will consider whether there are imperative reasons of overriding public interest that the project should proceed. Under planned revision of the Memorandum of Understanding, this decision may be delegated to a Director-level committee. An audit trail must be recorded and the Secretary of State for the Environment, National Assembly of Wales, Scottish Executive or Secretary of State for Environment (NI) notified, as appropriate.

10.8.3 If it is decided that a plan or project must go ahead for imperative reasons of overriding public interest, compensation for its effects must be identified and agreed and an audit trail recorded of all correspondence and decisions. Compensation may include recreation or restoration of comparable habitat at a new or existing site, and may occur in another country if necessary. Guidance on identifying compensation is given in Habitats Regulations Guidance Note 7. If sufficient compensation cannot be identified, the plan or project cannot proceed.

## **10.9 WHEN DO YOU NEED TO THINK ABOUT IT?**

10.9.1 Timing of AA is explained in the Habitat Regulations Guidance Notes 1 and 2. A Sustainability Appraisal or an Environmental Impact Assessment may identify the need for AA on relatively simple plans or projects, new activities or intensification of existing activities. English Nature's HRGN 1 states that AA is required:

- Where no planning permission or other authorisation is required, before the MOD decides to undertake the plan or project;
- Before MOD gives consent, permission or other authorisation for a plan or project, and therefore before any notice of proposed development or application for planning permission is submitted;
- Before MOD reviews the decision to undertake a plan or project or reviews consents, permissions or other authorisations for plans or projects that are incomplete;
- Before the MOD decides whether to approve an application for development that would otherwise be permitted development.

10.9.2 The key stages of the AA were summarised at paragraph 10.7.2. New surveys or scientific investigations may be required, depending on nature of the plan or project and available information. Alternatively, the AA can use lack of data to conclude that it cannot be certain that there will be no adverse effects. Surveys may need to be done at certain times of year (e.g. breeding, flowering, migrating seasons), which may not fall neatly into Planning timeframes.

10.9.3 Substantial survey data may be available directly from or via the MOD Conservation Groups, the membership of which will usually include representatives of the national nature conservation agencies, local planning authorities, non-governmental organisations and experts in the special features of the designated site. MOD Conservation Group members can be contacted via DE Environmental Support Team or the Conservation Group Chair (usually the site commandant, range officer or environmental protection officer).

10.9.4 Data collected by MOD Conservation Groups will usually span a number of years, and may be more comprehensive than could be efficiently gathered in a short survey. Where existing data is insufficient and new surveys are required, Conservation Groups should be notified in advance and provided with copies of surveys once completed. Where no MOD Conservation Group exists, copies of all surveys should be sent to DE Environmental Support Team. It is important to remember that new surveys may have to be undertaken at appropriate times of year e.g. flowering, breeding or migration periods. These may not always sit neatly with anticipated timescales for project implementation or Planning approval.

## 10.10 WHO SHOULD BE CONTACTED FOR FURTHER INFORMATION OR EXPERT ADVICE?

### MOD Contacts

- DE Estates Advisers: contact the local Defence Estates Office.
- DE Sustainability Strategy and Policy (Rural).
- DE Environmental Support Team.

### External Contacts

National Nature Conservation Agencies:

- English Nature. For local offices, contact your DE Estates Adviser, visit [www.englishnature.org.uk](http://www.englishnature.org.uk) or telephone 01733 455000.
- Scottish Natural Heritage. For local offices, contact your DE Estates Adviser, visit [www.snh.org.uk](http://www.snh.org.uk) or telephone 0131 4474784.
- Countryside Council for Wales. For local offices, contact your DE Estates Adviser, visit [www.ccw.gov.uk](http://www.ccw.gov.uk) or telephone 01248 385500.
- Environment and Heritage Service, Department of the Environment (Northern Ireland) (not a separate nature conservation agency but a division of DoE [NI]). For local offices, contact your DE Estates Adviser, visit [www.ehsni.gov.uk](http://www.ehsni.gov.uk) or telephone 028 90251477.

### References

International and National Nature Conservation Legislation:

- European Commission (1979) *Community Directive on the Conservation of Wild Birds* (79/409/EEC) [The 'Birds' Directive].
- European Commission (1992) *Community Directive on the Conservation Natural Habitats and of Wild Fauna and Flora* (92/43/EEC) [The 'Habitats' Directive].
- European Communities: 2000: *Managing Natura 2000 Sites – The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC*. [www.europa.eu.int/comm/environment/nature/art6\\_en.pdf](http://www.europa.eu.int/comm/environment/nature/art6_en.pdf)
- HMSO (1994) *The Conservation (Natural Habitats, &c.) Regulations*. HMSO, London. [The 'Habitats' Regulations].
- HMSO (1995) *The Conservation (Natural Habitats, &c.) Regulations (Northern Ireland)*. HMSO, London. [The 'Habitats' Regulations NI].
- Habitats Regulations Guidance Notes (HRGNs). These guidance notes are published by English Nature, but apply to England, Scotland, Wales and Northern Ireland. Copies are available from DE Conservation.
  - *HRGN 1: Appropriate Assessment.*
  - *HRGN 2: Review of existing planning permission and other consents.*
  - *HRGN 3: The determination of likely significant effect.*
  - *HRGN 4: Alone or in combination.*
  - *HRGN 5: Not directly connected with or necessary to the management of the site.*
  - *HRGN 6: Permitted development.*
  - *HRGN 7: Compensation.*

## **Planning Policy**

- Department of the Environment (1994) *Planning Policy Guidance 9: Nature Conservation* [PPG 9].
- Welsh Office (1996) *Technical Advice Note 5: Nature Conservation and Planning and Planning and Nature Conservation* [TAN 5].
- Scottish Executive (2000) *Nature Conservation: Implementation in Scotland of EC Directives on the conservation of Natural Habitats and of Wild Flora and Fauna and the Conservation of Wild Birds* (revised guidance updating Scottish Office Circular 6/1995 [Habitats and Birds Directives]).
- Planning Services (NI): 1997: Planning Policy Statement 2 – *Planning and Nature Conservation*.

## **MOD Policy**

- Memorandum of Understanding with Department of Environment, Welsh Office, Scottish Office and Department of Environment (NI).
- Declarations of Intent between the Ministry of Defence, English Nature, Scottish Natural Heritage, Countryside Council for Wales and Environment and Heritage Service (Northern Ireland).
- JSP 362: *The Defence Lands Handbook: Chapter 5: Conservation*.

Fig. 10.2: Process Map for assessment of plans or projects under the habitats regulations

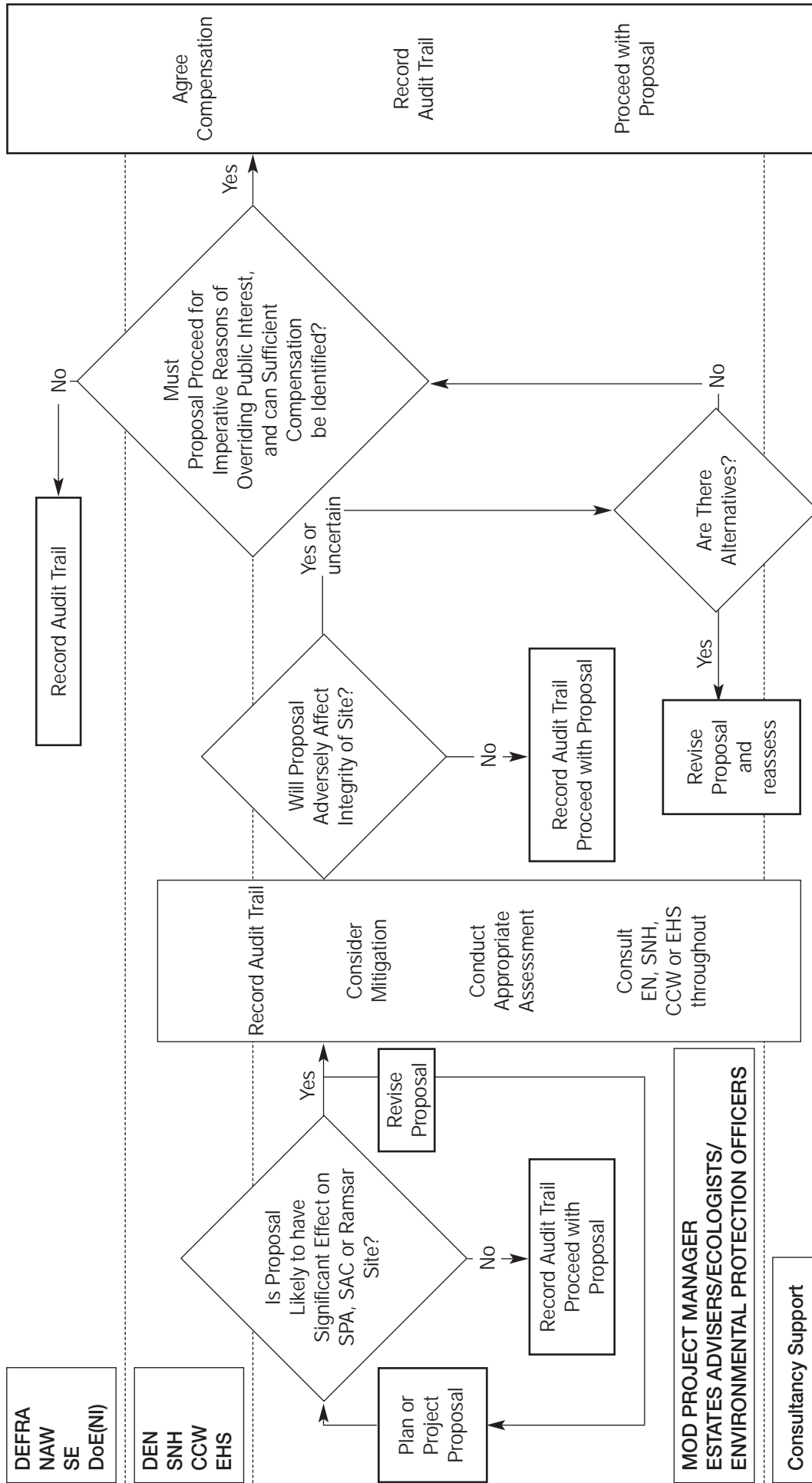


Fig. 10.3: Outline Record of Judgement of Likely Significant Effect

**[Title of Plan or Project/Application]**

[Location of Plan or Project/Application, with location plan attached showing relationship to the international designation], [International Nature Conservation Site]

[Nature/Description of Plan or Project/Application, including brief description of manner in which plan or project is proposed to be carried out], [Date]

1. This is a record of the judgement of likely significant effect, undertaken by the Ministry of Defence in respect of the above plan/project, in accordance with the Habitats Directive (92/43/EEC).

**Preliminary Considerations**

2. Qualifying interest features under the \* Wild Birds Directive (EEC/79/409)/Habitats Directive (92/43/EEC)/Ramsar Convention on Wetlands of International Importance Especially as Waterfowl Habitat 1979. [Describe features]

3. Conservation objectives [Describe conservation objectives]

4. Other relevant site information

    a. [Other site designations, protected species or habitats present]

    b. [List of Operations Likely to Damage (from SSSI notification papers)]

    c. [Ownership and management responsibility]

    d. [Management Plans]

5. \* English Nature/Scottish Natural Heritage/The Countryside Council for Wales/The Environment and Heritage Service (NI) were consulted on [date] and their representations, to which this authority has had regard, are attached at [Annex]. The conclusions of this judgement of 'likely significant effect' are in accordance with the advice and recommendations of \* English Nature/Scottish Natural Heritage/ The Countryside Council for Wales/The Environment and Heritage Service (NI), \* on the understanding that [conditions].

6. The proposal \* was/was not judged necessary for the management of the site for its conservation objectives. \* [Evidence attached at Annex]

7. \* Either (if clear cut case that no likely significant effect of plan or project):

    The judgement is that the plan or project as proposed is not likely to have significant effect on the site and that Appropriate Assessment is not needed.

    \*Or (if preliminary consideration not sufficient to make judgement of likely significant effect)

**Fuller Consideration of potential hazards**

8. [Describe hazard]

    a. [Nature conservation objective]

    b. [Likely consequences of hazard]

    c. [Probability of effect]

    d. [Magnitude, likely duration and reversibility of effect, brief record of evidence]

9. The judgement is that the plan or project as proposed is likely to have significant effect on the site and that Appropriate Assessment is needed. This judgement of likely significant effect will guide the scope of the Appropriate Assessment. (\*delete as appropriate)

Signed ..... Date..... ([ ] complete as appropriate)

Fig. 10.4: Outline Record of Appropriate Assessment

**[Title of Plan or Project/Application]**

[Location of Plan or Project/Application, with location plan attached showing relationship to the international designation], [International Nature Conservation Site], [Nature/Description of Plan or Project/Application, including brief description of manner in which plan or project is proposed to be carried out], [Date]

1. This is a record of the appropriate assessment, required by Regulation 48 of the Habitats Regulations 1994, undertaken by the Ministry of Defence in respect of the above plan/project, in accordance with the Habitats Directive (Council Directive 92/43/EEC). Having considered that the plan or project would be likely to have a significant effect on the [name of international site] and that the plan or project was not directly connected with or necessary to the management of the site, an appropriate assessment has been undertaken of the implications of the proposal in view of the site's conservation objectives.
2. \* English Nature/Scottish Natural Heritage/the Countryside Council for Wales/the Environment and Heritage Service (NI) was consulted under Regulation 48(3) on [date] and their representations, to which this authority has had regard, are attached at [Annex]. The conclusions of this appropriate assessment \* are/are not in accordance with the advice and recommendations of \* English Nature/Scottish Natural Heritage/the Countryside Council for Wales/the Environment and Heritage Service (NI).
3. \* The MOD was required to gather further information reasonably necessary for this assessment on [date] under Reg.48(2), \* a task completed on [date]/but did not gather the information.
4. \* The opinion of the general public was taken under Reg. 48(4) by way of \*public advertisement/further consultation etc and the views expressed [Annex] have been taken into account.
5. The site's conservation objectives have been taken into account, including consideration of the citation for the site and information supplied by \* English Nature/Scottish Natural Heritage/The Countryside Council for Wales/The Environment and Heritage Service (NI) [Annex]. The likely effects of the proposal on the international nature conservation interests for which the site was designated may be summarised as: [List of Effects]
6. The assessment has concluded that: the plan or project as proposed \* would/would not adversely affect the integrity of the site.  
  
If the plan or project as proposed \* would/would not adversely affect the integrity of the site:
7. The imposition of mitigating conditions or restrictions on the way the proposal is to be carried out has been considered and it is ascertained that \* either mitigating conditions or restrictions cannot overcome the adverse effects on the integrity of the site or the following mitigating conditions and/or restrictions would avoid adverse effects on the integrity of the site. [List of mitigating conditions/restrictions].  
  
(\*delete as appropriate)

Signed ..... Date..... ([ ] complete as appropriate)



# CHAPTER 11: GLOSSARY OF TERMS AND ABBREVIATIONS

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## 11.1 TERMS

### **Appraisal**

A high-level investigation of the effects of a policy, plan, programme or project when the information available is very broad and the exact outcomes have not been fully defined. The objectives against which activities are appraised are usually reasonably broad, and appraisals are usually more qualitative than quantitative. Appraisals inform decisions by raising awareness of potentially significant issues as early as possible, identifying where more detailed assessment is required and prompting consideration of alternative options or mitigation measures.

### **Appropriate Assessment (AA)**

An ecological assessment of likely significant impacts that must be undertaken prior to authorisation of any plan or project on or near European or 'Natura 2000' wildlife sites. These include Special Areas of Conservation (SAC) for habitats or species, Special Protection Areas (SPA) for birds, and Ramsar sites of international wetland importance. The AA should identify if the plan or project will have an adverse effect on the integrity of the feature for which the site was designated. Unless it can be demonstrated that there will be no adverse impact, the proposal can only proceed with Government approval. English Nature/ Countryside Council for Wales/Scottish Natural Heritage must be consulted.

### **Archaeological Evaluation**

An investigation into the presence, absence, nature, date and extent of archaeological features. Under PPG16, County Archaeologists can demand archaeological evaluations to inform the Planning consultation process. This applies to areas where there is a known archaeological presence and there is a genuine likelihood of disturbing buried features, however, it can also apply to areas that have not previously been surveyed and the likelihood of archaeological presence is unknown. Evaluation techniques range from desk-top research, non-invasive fieldwork such as geophysical surveying, or invasive fieldwork such as trial trenches.

### **Assessment**

Assessments often follow on from appraisals as more detailed evaluations of impacts of project-level activities. At this stage, there is greater clarity of information about proposals and a detailed investigation into specific impacts of specific processes or numbers of people at specific locations can be carried out. Assessments are usually more quantitative than appraisals and the criteria against which the activity is being judged are usually well defined.

### **Environment**

A broad term that reflects our surroundings – the interactions between land, sea, air, flora and fauna, and the presence of people and built developments. Negative environmental interactions that we may have include production of waste and contamination, use of natural resources, water use and disposal, loss of species and habitats, soil erosion and damage to landscape. Positive interactions include landscape restoration and habitat creation.

### **Environmental Appraisal (sometimes termed Higher Level Environmental Appraisal (HLEA))**

A term occasionally used by Defence Estates to refer to an environmental study to meet MOD policy requirements rather than Statutory EIA requirements. The studies have tended to focus on environmental themes and are of an intermediate level of quantification and detail – somewhere between a handbook appraisal and a full EIA, but often following EIA procedures.

## **Environmental Impact Assessment (EIA)**

EIA is a detailed investigation into the likely environmental impacts of a specific project or development. More specifically, EIA is used to describe evaluations that are triggered by Town and Country Planning (EIA) Regulations and related statutory instruments, before Planning approval is granted. Statutory EIAs are usually carried out by specialists and require widespread consultation.

## **Environmental Statement (ES)**

The Environmental Statement is the final report of the EIA investigation, which must be submitted to the local planning authority when approvals are sought for certain developments. The report summarises the findings of each stage of the EIA investigation, in particular a description of the project and site, likely environmental impacts and proposed mitigation measures.

## **Impact**

Any change in environmental, social or economic characteristics or behaviour caused by a project or decision. Impacts can be:

- *Direct or Indirect*, whether a change is initiated directly by the project, or indirectly by e.g. the supply chain, or other projects and decisions having to change as a result of the proposal.
- *Positive or Negative*, whether the project or decision would act as an enhancement or a detriment to a feature.
- *Short-term or Long-term*, whether the impact is for a short period (e.g. noise may only be present during construction) or more persistent (e.g. long term noise associated with operational aspects of a new facility).
- *Reversible or Irreversible*, whether an impact gradually ameliorates naturally or with assistance by mitigation (e.g. re-colonisation of habitat), or whether damage is irreparable (e.g. destruction of buried archaeology).
- *Local or Extensive*, whether the effects are felt in the immediate locality or extend across a region.
- *Cumulative*, i.e. the effects of an activity may be acceptable in isolation, but when considered in conjunction with other activities in an area may contribute to unacceptable impact levels overall (e.g. small amounts of habitat destruction on individual projects may be acceptable but the overall loss would be unacceptable).

## **Indicator**

Often termed Performance Indicator (PI) or Key Performance Indicators (KPI). Measures to indicate the performance of an organisation against targets that have been set to meet improvement objectives. For example, there may be an objective to reduce production of greenhouse gases. A target may be to reduce greenhouse gas emissions by 12.5% (based on 1990 levels) by 2010. Indicators may include elements such as annual White Fleet vehicle mileage, annual electricity consumption in kWh or percentage of electricity obtained from renewable sources.

## **Mitigation**

Measures put in place to reduce, reverse, offset or repair potential impacts of a development, as identified by an appraisal or assessment. Mitigation measures include translocating habitats or species, fitting filters to chimney stacks, trapping contaminated effluent with bunds or booms, screening an unsightly development with vegetation or scheduling construction vehicle movements to non-peak transport hours. Measures can also prevent impacts as well as alleviate them, e.g. changing the location, investing in clean technology or renewable energy, and avoiding new construction by considering refurbishment or sharing of facilities.

## **Land Quality Assessment**

Desk-based or intrusive investigation to identify and quantify the presence of contaminated land and groundwater. The assessment forms the baseline for remediation and clean-up programmes.

## **Life Cycle Assessment**

Life Cycle Assessment (LCA) identifies impacts of projects from conception, through choice of materials to product design, construction, operation and disposal. LCA can also inform the design, running, maintenance and decommissioning of the facility as well as the processes and products or equipment within. The aim is to minimise resource use and waste from 'cradle to grave' and LCA supports Sustainability Appraisal by considering future implications as well as short term impacts.

## **Policy**

Strategic objectives set by the government or a government department. Policies provide a framework for developing and co-ordinating programmes and activities to implement high-level objectives or interpret new legislation. Examples include promotion of PFI and Partnering arrangements to promote value for money in new developments, Strategic Defence Review new chapter, Defence E-Business strategy and Modernising Defence.

## **Policy Appraisal**

Policy appraisal is the judgement of a new policy against a series of objectives in fields such finance, health and safety, operational factors and sustainability. The aim is to inform decision-makers and refine the policy objective until it reflects best practice and improvement objectives in all fields as effectively as practicable.

## **Programme**

A set of related activities that collectively lead to the fulfilment of a policy objective or a strategic plan. An example is the Estate Strategy implementation programme, which pulled together seven large projects designed to meet the objectives presented in the Strategy for the Defence Estate (June 2000).

## **Project**

Discrete activities or collections of tasks that contribute towards meeting the aims of a programme or policy. MOD delivers such a wide range of projects per year that it is difficult to precisely define what constitutes a project. Examples range from new construction requirements, new equipment procurement, comprehensive maintenance exercises, relocation of personnel or equipment, change of use of a facility, acquisitions and disposals.

## **Significance**

The 'importance' of an impact, i.e. whether it is considered severe enough to warrant further investigation or mitigation. Judgement of significance can be highly subjective and can depend on the nature and scale of the activity, the sensitivity of the receiving environment or population, the timing, frequency, duration and reversibility of the impact and the attitude and experience of the assessor.

## **Stakeholder engagement**

Stakeholders are anybody who could have an interest in, or could be affected by, a decision or activity. They can be internal e.g. the end-user, MOD financial teams, MOD specialist teams, or external e.g. Statutory Bodies, Regulators, Non-Governmental Organisations, the general public, special interest groups and investors. Engagement or consultation should be initiated from the early stages of decision-making. This is not only a requirement of the Modernising Government agenda, but standard practice in Sustainability Appraisal. Engagement ensures that appraisals and decisions are informed by as wide a range of perspectives and knowledge as possible, and minimises the risk of last-minute objections, delay and bad publicity.

## **Strategic Environmental Appraisal (SEA)**

Strategic Environmental Appraisal (SEA) has evolved from project-level EIA and is the identification of potential environmental impacts at the earliest stages of a policy, plan or programme. Such a process enables decisions to be informed by environmental consequences and alternative solutions to be sought or mitigation measures to be explored before the development progresses too far to be influenced. An early, strategic appraisal is useful for identifying cumulative and indirect impacts and allows opportunities for environmental enhancement to be explored rather than focussing on detrimental impacts. The SEA Directive 2001 is due to become law in July 2004, making it mandatory to appraise public plans and programmes.

## **Sustainability**

A term commonly used in preference to Sustainable Development. This handbook uses the word sustainability as such, although the military can use the word to mean the logistical goal of sustaining operational capability.

## **Sustainability Appraisal**

Sustainability Appraisal has evolved from Strategic Environmental Appraisal whereby policies, plans, programmes and projects are appraised against social, through life, economic and quality of life objectives as well as environmental factors. It is becoming increasingly good practice for decisions to be informed by the full scope of sustainability considerations. Appraisals should take place as early as possible, they should be iterative (i.e. revised as the proposal changes) and they should look for opportunities for enhancement rather than focus on avoiding negative impacts.

## **Sustainable construction**

A term closely associated with sustainable design, in that principles of Sustainable Development should be built into the construction phase of new developments. Sustainability features include:

- minimisation of disturbance to communities and wildlife from dust, noise, and construction vehicles,
- providing a safe environment for employees,
- use of local labour and skills,
- minimisation and responsible disposal of waste and discharges.

## **Sustainable design**

A term closely associated with sustainable construction, in that principles of Sustainable Development should be built into the design of new buildings and infrastructure. Sustainability features include:

- choice of layout to minimise the overall footprint or impact on greenfield sites,
- use of recycled or recyclable materials,
- technologies to minimise energy loss and resource consumption,
- maximisation of natural light and ventilation, rainwater capture and grey water re-use, renewable energy potential, and
- access for disabled or pedestrians/cyclists.

## **Sustainable Development**

A common definition is *development that meets the needs of the present without compromising the ability of future generations to meet their own needs* (Brundtland Commission, 1987). The underlying philosophy is that successive generations should enjoy the same wealth of resources, richness of ecosystems and natural landscapes and quality of life as their forebears. An emphasis should be placed on thinking of both short-term and long-term environmental, social and economic consequences of activities.

## **Through-Life Costing (TLC)**

Sometimes termed Whole-Life Costing. A similar process to LCA, as both processes consider impacts of proposals from conception through to ultimate disposal. Whereas LCA identifies impacts at all stages, TLC aims to apply monetary costs to impacts and materials, including investment in technology, on-going running costs, maintenance and disposal costs. TLC has links to sustainability because adoption of e.g. renewable resources, energy efficient technology and recyclable materials support environmental objectives and can be cost efficient in the long-term.

## 11.2 ABBREVIATIONS

<b>AA</b>	Appropriate Assessment
<b>CEstO</b>	Customer Estate Organisation
<b>CESO</b>	Chief Environment and Safety Office
<b>DE</b>	Defence Estates
<b>EC</b>	European Commission
<b>EIA</b>	Environmental Impact Assessment
<b>EMS</b>	Environmental Management System
<b>ES</b>	Environmental Statement
<b>ES+P</b>	DE Estate Strategy and Policy Team (Sustainability)
<b>EST</b>	DE's Environmental Support Team
<b>IPA</b>	Integrated Policy Appraisal
<b>IPT</b>	Integrated Project Team
<b>IRMP</b>	Integrated Rural Management Plan
<b>LCA</b>	Life Cycle Analysis
<b>LPA</b>	Local Planning Authority
<b>LQA</b>	Land Quality Assessment
<b>NGO</b>	Non-Governmental Organisation
<b>NOPD</b>	Notice Of Proposed Development
<b>PFI</b>	Private Finance Initiative
<b>PPG</b>	Planning Policy Guidance
<b>PPP</b>	Public Private Partnership
<b>RIA</b>	Regulatory Impact Assessment
<b>SA</b>	Sustainability Appraisal
<b>SAT</b>	DE Sustainability Advisory Team (part of EST)
<b>SDIG</b>	Sustainable Development In Government
<b>SEA</b>	Strategic Environmental Appraisal
<b>TLC</b>	Through Life Costs (sometimes WLC or Whole-Life Costs)

# CHAPTER 12: CONTACTS AND FURTHER INFORMATION

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## 12.1 DEFENCE ESTATES CONTACTS

### **Defence Estates Environmental Support Team**

Assistance in Sustainability Appraisal, Planning, ecological, archaeological, EIA, Appropriate Assessment, public access and recreation issues.

- EST Head Office – Warminster. 01985 222872 (mil: 94381 2872)
- EST Sustainability Advisory Team – Durrington (moving to Westdown Camp). 01980 594637 (mil: 94321 4637) (number valid in 2003)
- EST North – Catterick. 01748 875043 (mil: 94730 5043)
- EST South – Westdown Camp. 01980 674807 (mil: 94325 4807)
- Archaeology. 01985 222876 (mil: 94381 2876)
- Planning and environmental assessments. 01985 222876 (mil: 94381 2876)

### **Defence Estates Estate Strategy and Policy Team (Sustainability)**

Policy level advice on Sustainable Development, including government targets, departmental strategies and generic appraisal issues.

- Built Environment cell, Sutton Coldfield. 0121 311 2018 (mil: 94421 2018)
- Rural Environment cell – Foxhill, Bath. 01225 883523 (mil: 9355 83523)
- Research and Development and Socio-economic cell – Foxhill, Bath. 01225 883523 (mil: 9355 83523)

### **Specialist Services (SpS) Environmental**

Assistance in Land Quality Assessment and Contaminated Land issues, as well as EIA, nuclear and maritime and historic building advice.

- SpS Environmental, Sutton Coldfield. 0121 311 2007 (mil: 94421 2007)

### **Defence Estates Planning Team – Planning and EIA issues (built/urban focus).**

- Sutton Coldfield 0121 311 2229 (mil: 94421 2229)

### **Defence Estates US Forces**

- Sustainability policy and SHEF head of cell, Waterbeach – 01223 255045
- Sustainability Appraisal implementation focal points, Waterbeach – 01223 255088

## 12.2 WIDER MOD CONTACTS

It is not intended that detailed contact lists are provided for all TLBs, but assistance and advice on Sustainability Appraisal themes can be obtained from:

- Chief Environment and Safety Offices (CESO) – HQ and regional offices;
- Establishment or Unit SHEF (Safety, Health, Environment and Fire) officers;
- Establishment Development teams;
- Utilities management teams;
- Site or Unit Conservation Groups.

## REFERENCES

Defence Estates (2000): *In Trust and On Trust* (The Strategy for the Defence Estate)

DEFRA web resource on environmental information –

**[www.defra.gov.uk/environment/index.htm](http://www.defra.gov.uk/environment/index.htm)**

DETR (1999): *A Better Quality of Life – A Strategy for Sustainable Development for the UK.*

**[www.sustainable-development.gov.uk/uk\\_strategy/content.htm](http://www.sustainable-development.gov.uk/uk_strategy/content.htm)**

DETR (2000) *Indicators of Sustainable Development in the United Kingdom.*

Sustainable Development in Government web information resource –

**[www.sustainable-development.gov.uk](http://www.sustainable-development.gov.uk)**