Supplementary Planning Document

Waste Minimisation in Development Projects

(incorporating reduction, re-use and recycling requirements)

September 2006

GCC · Cheltenham Borough Council · Forest of Dean District Council · Gloucester City Council · Stroud District Council · Tewkesbury Borough Council

Supplementary Planning Document

Waste Minimisation in Development Projects

(incorporating reduction, re-use and recycling requirements)

Adopted by Gloucestershire County Council
September 2006

ISBN 1-899917-99-3

Executive Summary

This is a Supplementary Planning Document on *Waste Minimisation in Development Projects.* It supplements **Policy 36** in the **Gloucestershire Waste Local Plan** (October 2004) and is a material consideration when planning authorities in Gloucestershire determine planning applications.

Waste should be managed in accordance with the '**waste hierarchy**' (prevent, reduce, reuse, recycle and dispose) unless it can be demonstrated that an alternative approach is more environmentally sound. "**Waste minimisation**" means not producing waste in the first place. It also means reducing the quantity of waste that requires processing and/or disposal. The aspiration of the SPD is to divert 100% of construction/demolition waste from landfill. Any persons undertaking building works (including refurbishments) need to consider the principles of waste minimisation.

The principles of waste minimisation are:

- To design proposals sustainably;
- To reduce the amount of waste generated from development;
- To conserve natural resources through re-using waste arising from construction;
- To re-use waste materials on-site to reduce transportation;
- To use recycled materials where possible;
- To reduce waste generation during the operational lifetime of the development, and facilitate recycling where waste does arise.

This document sets out a two-level approach:

1. Those applying for planning permission for **"major" developments** (see definition below and paragraph 1.11) are required to prepare and submit a Waste Minimisation Statement to accompany their planning application;
2. Planning applications for **all other developments** need to abide by the principles of waste minimisation. An informative leaflet advising of the environmental benefits and possible financial savings from following these principles is available at Council Offices and on-line at www.gloucestershire.gov.uk

Major Development - If you are preparing to submit a planning application for either 10+ dwellings (or residential development on a site larger than 0.5 hectare), or for any other type of development where the floorspace exceeds 1,000 square metres or site area is 1 hectare or more, then you will need to prepare and submit a Waste Minimisation Statement to the local planning authority as part of your application. This is not something that can be prepared and submitted at a later date.

The **Waste Minimisation Statement** needs to set out how waste arising during the demolition, construction and occupation of the development is to be minimised and managed, and how recycling during the occupational life of the development has been incorporated. A checklist of what this entails is set out overleaf. To help, a number of case study examples of good practice are presented in this document to provide ideas for innovative ways to minimise waste production.

Checklist for Preparing a Waste Minimisation Statement

The checklist below is for applicants to use in preparing their Waste Minimisation Statement (WMS). Planning authorities can also use it to assess the completeness of these Statements, which will help to establish a consistent approach across the County. The WMS needs to demonstrate that each criteria has been met, where applicable to the proposed development, however the content need not be limited to these issues. **The onus is on the applicant to demonstrate how they have addressed each aspect as appropriate.**

Project Planning & Design Stage

1. There needs to be evidence in the WMS that the scheme's design has incorporated reasonable steps to eliminate waste (for example re-using existing infrastructure).	
2. There needs to be evidence in the WMS that the developer has considered using standard material sizes and/or pre-fabricated parts (including incorporating deconstruction principles for ease of disassembly), and there is a commitment to specifying precise material requirements to avoid wastage.	
3. There needs to be a commitment in the WMS that at least 10%* (by value) of the materials to be used will be comprised of recycled content and that sustainably sourced materials will be used where possible.	

* This figure will be reviewed through the County Council's Annual Monitoring Report.

Construction Activities

4. The WMS needs to state the tonnage of construction and demolition waste that is likely to arise, set out by material type (e.g. wood, brick/concrete, soils, plastics etc.).	
5. The WMS needs to set out the method for auditing construction and demolition waste including a monitoring scheme of agreed waste management procedures to be undertaken, there also need to be corrective measures set out for if failures occur (see Appendix C).	
6. The WMS needs to set out how waste materials arising during demolition and construction will be segregated, and the measures that will be used for raising site operatives' awareness of waste minimisation (including how incoming packaging material is to be minimised and handled).	
7. The WMS needs to provide a commitment that waste materials are to be re-used on-site wherever possible, or where this is not possible that they are to be re-used off-site? (Justification needs to be provided for any waste that is proposed to be sent to landfill).	
8. The WMS needs to provide evidence that suitable provision been made for handling hazardous waste arising on-site, as advised by the Environment Agency.	

Operational Life

9. The WMS needs to demonstrate that waste collection authority advice has been obtained on recycling box / residual bin requirements, and there needs to be a commitment by the developer to provide recycling receptacles and user information.	
10. The WMS needs to demonstrate that adequate access for waste collection vehicles and their operatives is provided and that there is sufficient space for: **Residential** - recycling boxes, storage areas, composting bins and wheelie bins; **Commercial** - recycling skips/bins and residual waste receptacles etc. Or space for communal facilities, if appropriate.	

Contents

Section 1 - Introduction

1.1 The aim of this Supplementary Planning Document (SPD) is to minimise the production of waste during demolition, construction[1] and occupation of buildings. This is to be achieved through developers preparing and submitting a Waste Minimisation Statement (WMS) as part of their planning application, and then committing to implement it during development. It is recognised that the applicant and the subsequent developer/builder may differ, consequently this commitment should be formalised through the use of planning conditions (see paragraph 1.23 and Appendix F).

1.2 SPDs are an important consideration to take into account when planning applications are determined, and the local planning authority will assess the WMS as part of this process (see paragraphs 1.21-1.22). SPDs are planning documents that sit alongside development plans and provide additional detail about how policies in adopted plans are to be implemented. This SPD sets out how Policy 36 'Waste Minimisation' of the Gloucestershire Waste Local Plan[2] (WLP) is to be implemented (see box below and paragraphs 2.4-2.5).

Gloucestershire Waste Local Plan
Policy 36 – Waste Minimisation

Proposals for development requiring planning permission shall include a scheme for sustainable management of the waste generated by the development during construction and during subsequent occupation. The scheme shall include measures to:

i. Minimise, re-use and recycle waste; and
ii. Minimise the use of raw materials; and
iii. Minimise the pollution potential of unavoidable waste; and
iv. Dispose of unavoidable waste in an environmentally acceptable manner;

Initiatives to reduce waste generation will be encouraged throughout the County.

1.3 To date the implementation of WLP Policy 36 has been inconsistent. Without this SPD in place the lack of action on this important issue is likely to be perpetuated. Therefore, although there is already a requirement to submit a WMS, this SPD seeks to make that requirement more explicit and easier to implement.

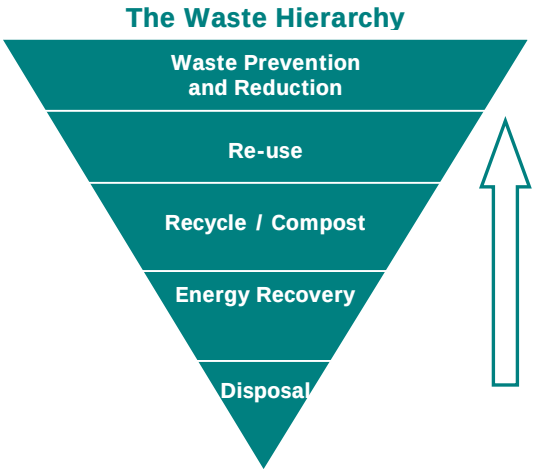
Why Minimise Waste?

1.4 For the purposes of this SPD 'waste' is define as materials that are unwanted having been left over after the completion of a process and which would otherwise be discarded. Waste

[1] For the purposes of this SPD 'construction' includes the fitting-out of buildings.
[2] Gloucestershire Waste Local Plan (adopted October 2004) is a statutory land-use planning document that provides the detailed policy framework for determining planning applications for waste management development in Gloucestershire. Its aim is to progress the County towards sustainable waste management practices over the next 10 years. It will be replaced incrementally through preparation of Development Plan Documents (see Section 2).

minimisation is the process of reducing the quantity of such materials arising and requiring processing and/or disposal. The priority is not producing waste in the first place. This requires the reduction of waste at source. To do this the waste implications of a proposal need to be considered at the earliest possible stage. In the context of this SPD, waste minimisation also means making the best use of that waste which is produced.

1.5 Waste should be managed in accordance with the 'waste hierarchy' (prevent, reduce, reuse, recycle, recover, dispose – see diagram) unless it can be demonstrated that an alternative approach is more environmentally sound.



1.6 Minimising or re-using waste generated through site development (including demolition waste) will reduce the amount of waste that has to be managed and ultimately disposed of, which in turn will contribute to reducing the production of greenhouse gas emissions. In addition, it will reduce the amount of primary construction materials that have to be extracted, processed, purchased, and transported. This can result in considerable financial savings[3] for developers by avoiding landfill charges and preventing the need to pay aggregates tax for primary materials (see Section 4). This is over and above the benefits to the environment. However, to be most effective, waste generation needs to be considered at the outset, which means during the formative design stage (see Section 3).

Waste Minimisation Principles

- To design proposals sustainably (see Section 3);
- To reduce the amount of waste generated from development (see Sections 3 and 4);
- To conserve natural resources through re-using waste arising from construction (see Section 4);
- To re-use waste materials on-site to reduce transportation (see Section 4);
- To use recycled materials where possible (see Section 4);
- To reduce waste generation during the operational lifetime of the development, and facilitate recycling where waste does arise (see Sections 3 and 5).

[3] A Scottish Environment Protection Agency (SEPA) study suggests that the costs of producing and disposing of waste amounts to around 4% of turnover. WRAP have noted that the construction industry spends over £200 million on landfill tax each year. Other costs include purchase costs of the materials in the skip; labour costs; lost profit; storage and handling costs, as well as the disposal costs. **The true cost of construction waste is generally 10-20 times the disposal cost of the skip.** Case studies have shown savings of 3% of build costs, or 20% of material on site **without** significant investment costs. (http://www.constructingexcellence.org.uk/newsletters/enews/hf/hf_nov04.html)

1.7 The aim of this SPD is to minimise potential adverse impacts that waste derived from demolition/construction and subsequent occupation of buildings has on the environment. This is sought through the adoption of good practice in the design process, materials selection, construction techniques and operational methods. The key principles of waste minimisation are outlined in the box below, which are expanded upon and explained in later sections of this SPD.

Who is this SPD for?

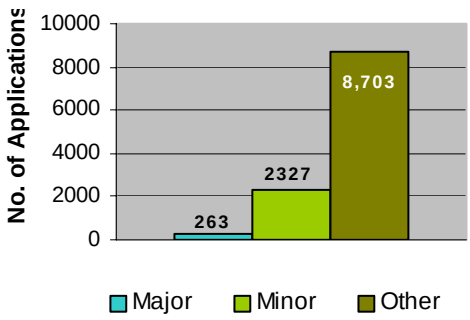
1.8 This SPD will assist the following groups when preparing, assessing and determining planning applications:

- Applicants and Developers (including planning/technical consultants);
- Local Planning Authorities;
- Members of the public;
- Waste Collection Authorities;
- Waste Planning Authority;
- Other interested parties.

What types of development does this SPD apply to?

1.9 The principles of waste minimisation apply to **all development**. This includes new-build, refurbishment (including demolition), conversion, extensions, expansions and change of use. Where planning permission is required waste minimisation principles need to be considered during the design of a proposal and implemented through the planning application process.

Major/Minor Planning Application Comparison (Gloucestershire Districts 2004/05)



1.10 During 2004/05 there were over 11,000 planning applications determined in the six Gloucestershire Districts. To require submission of a WMS with each of these would require considerable resources to appraise and enforce. Instead, to ensure that those developments generating the most waste adopt waste minimisation principles, a threshold for submitting a WMS has been introduced to target 'major' development (see box).

Major Development Thresholds

For residential developments:

- 10 or more dwellings; or (if this is not known);
- the site area is 0.5 hectares or more.

For other types of development:

- the floorspace to be built is 1,000 square metres or more; or
- the site area is 1 hectare or more.

1.11 'Major development' is defined by the ODPM's Development Control Statistics for England. The adjacent box sets out what developments will be required to submit a WMS as part of their planning application.

1.12 The majority of planning applications to which this SPD relates will be determined by District Councils. As an example of the numbers of applications captured by utilising this threshold, Cheltenham Borough Council determined 66 'major' applications in 2004. The benefit of using this threshold is that it will be simpler for planning authorities to implement and monitoring data should be relatively easy to collect.

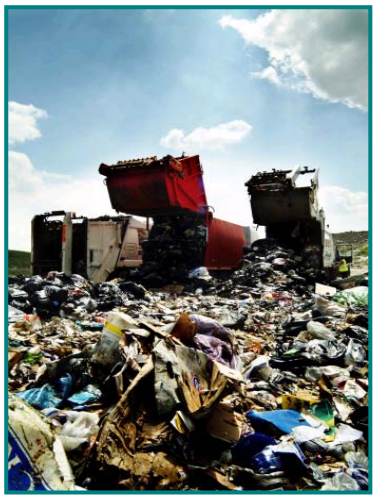
1.13 Applicants for development which fall below the threshold still need to abide by the principles of waste minimisation. Whilst it is generally true that the larger the development the greater its implications for using resources and generating waste this does not mean that smaller projects should not apply and adhere to the principles of waste minimisation.

1.14 It is considered that the most appropriate way forward, with regards waste minimisation, for those undertaking these smaller projects (mostly householder extensions) is by using persuasion. A short leaflet outlining the benefits of following the principles of waste minimisation is available from local planning authorities. This informative leaflet sets out a brief checklist and a small number of examples to highlight practical solutions to provide environmental benefits. Applicants for such development however may still wish to submit a WMS to demonstrate the sustainability credentials of their proposal. However, with respect to making adequate provision for recycling boxes/bins in dwellings etc. this applies to every new house, not just larger developments of 10+ units.

As an applicant/developer, what am I required to do?

1.15 To be most effective, waste minimisation issues need to be considered during the formative stages of proposal design. Applicants for 'major' development are therefore required to prepare and submit a WMS to accompany their planning application. The statement needs to set out how waste arising during the demolition, construction and occupation of the development is to be minimised/managed. It is anticipated that the detail provided in a WMS will be broadly proportionate to the amount of waste likely to be generated (at all stages in its lifecycle) by that development.

1.16 Sections 3 to 5 set down in more detail the issues that the WMS needs to address. These relate to three main stages of development: design; construction/demolition; and occupation. Each of these three sections begins with a brief summary of the key issues that applicants will need to demonstrate they have considered. A collated checklist of these issues is provided in the Executive Summary, which is intended as a 'one-stop shop' to assist applicants in preparing their WMS. Appendices to the SPD provide additional detail to support the main text, including a useful glossary of terms and a list of documents/websites that may be of help to users of this SPD.



1.17 Further guidance on preparing a WMS is set out in the Department of Trade and Industry (DTI) voluntary code of practice[4], which encourages the preparation of a Site Waste Management Plan [SWMP] (see Appendix C). This approach is supported by the Environment Agency (EA)[5]. To avoid confusion, for the purposes of this SPD, a Waste Minimisation Statement (WMS) may comprise components of other derivations such as SWMPs and Waste Audits, although a WMS will cover more issues, for example recycling box storage and provision of home composting bins.

When do I need to submit a WMS?

1.18 Applications for 'major' development must be accompanied by a WMS. It is **not** acceptable for applicants or planning authorities to defer submission of the WMS to a later date through the use of a planning condition. This information must be provided in support of an application from the outset so that decision makers can take waste issues into account when determining the acceptability of the proposal. If, having read this SPD, a developer is unclear how to prepare their WMS then pre-application discussions should take place between the applicant and planning authority to clarify what is required. Contact details are provided at the front of the SPD.

What if the details of the development are undecided?

1.19 Where the precise details of a development are undecided, for example when an outline planning application is submitted, a broad WMS should be prepared by the applicant. This will be submitted alongside the outline application and set down the principles for managing waste on site. It should contain a clear commitment to action and achieving high standards. This will provide the framework for a more detailed statement setting out tonnages, methods, destinations and timescales to be submitted as part of the reserved matters applications. Both elements of the WMS need to conform to the requirements set out in this SPD.

What if a WMS is not submitted?

1.20 If a developer for major development fails to submit a WMS then the application should not be registered as valid until a WMS is submitted. Under the ODPM 'Best Practice Guidance on the validity of planning applications' (March 2005) local planning authorities should give consideration to adopting a practice whereby planning applications for 'major' development that are not accompanied by a WMS will not be registered as valid. This will ensure that a WMS is submitted alongside applications for major development.

How will the WMS be assessed?

1.21 The local planning authority, to whom the planning application and accompanying WMS has been

[4] DTI voluntary code of practice for construction contractors and clients (8th July 2004).
[5] EA Sustainable Construction: Position Statement (http://www.environment-agency.gov.uk/aboutus/512398/289428/654938/?version=1&lang=_e)

submitted, will assess whether the statement meets the required standard by considering it against the checklist set out on page 6. The application should not be determined until the WMS is considered acceptable in line with the checklist. This will require consultation between the planning authority and their waste collection/recycling team (see Sections 3 and 5). Additionally, advice can be sought from Gloucestershire County Council, as part of its Waste Planning Authority and Waste Disposal Authority functions.

1.22 If an inadequate statement is provided, i.e. aspects from the checklist are missing or not reasonably covered, it is the responsibility of the local planning authority to liaise with the applicant to improve their submission. It is a matter for the local planning authority concerned to determine what they consider to be reasonable. This will allow flexibility to adapt requirements to the individual circumstances of each proposal.

Use of planning conditions and legal agreements

1.23 Planning conditions should be used to ensure that the agreed WMS is implemented, or, in the case of outline applications, that a detailed WMS is submitted alongside the reserved matters application. Where necessary these conditions should be reaffirmed at reserved matters stage to prevent them from being overlooked or superseded. Four example conditions are set out in Appendix F, which local planning authorities can tailor as necessary for decision notices. It is the role of the determining authority to ensure that planning conditions are enforced.

1.24 In accordance with Waste Local Plan paragraphs 5.130 & 5.131, where particular requirements are made (for example the provision of regular waste audit statements during construction works), it may be that the use of legal agreements provides a better approach. This will be determined on a case-by-case basis as appropriate in liaison with the relevant waste collection authority.

Section 2 - Planning Context

Sustainable Waste Management

2.1 Sustainable development is the core principle underpinning land-use planning, and effectively managing waste is one of its' key elements. Where waste is produced it should be seen as a potential resource to be put to good use in place of primary materials. The requirement to minimise the production of waste is supported in land-use planning at national, regional, and local policy level. Waste reduction also contributes to reducing greenhouse gas emissions by minimising the production, use, transportation and disposal of materials.

National (England)

2.2 National planning guidance on waste minimisation is primarily contained in Planning Policy Statement 10 'Planning for Sustainable Waste Management' (PPS10) and the National Waste Strategy[6]. PPS10 states that "*proposed new development should be supported by site waste management plans*", whilst the Waste Strategy (2006 review) notes that "*waste prevention is integral achieving the UK's Sustainable Development goal and is a priority for action in its sustainable consumption and production agenda as set out in 'Securing the Future' (DEFRA, March 2005)*".

Regional (South West)

2.3 The South West Regional Waste Strategy[7] (adopted October 2004) policy P10.8 requires new development to be designed to minimise the production of waste (see Appendix B). In determining planning applications the Regional Waste Strategy states that developers should be encouraged to provide information on how they will minimise the production of waste and maximise the re-use and recycling of that, which is produced. The intention is that this Strategy will feed into the Regional Spatial Strategy, which is a strategic level policy document to which this SPD should be in 'general conformity'[8].

Local (Gloucestershire)

2.4 Under the 'old style' planning system, the development plan comprised adopted District Local Plans, the Minerals and Waste Local Plans and Structure Plan. Gloucestershire's Waste Local Plan (WLP) is therefore part of the development plan for Gloucestershire.

2.5 WLP Policy 36 requires waste to be minimised when development is undertaken and when buildings are occupied (see Appendix B). Policy 36 explicitly requires a scheme to be submitted detailing how

[6] At the time of SPD adoption the National Waste Strategy was under review (February 2006).
[7] This is to be translated into the South West Regional Spatial Strategy (RSS), due to be adopted in 2007.
[8] The Regional Planning Body have stated that this SPD is in general conformity with the RSS.

waste generated during the development and subsequent occupation is to be sustainably managed.

2.6 Under the 'new' planning system the development plan consists of Local Development Frameworks (including Minerals and Waste Development Frameworks[9]) and the Regional Spatial Strategy. Planning applications must be determined in accordance with the development plan unless material considerations indicate otherwise. This SPD comprises a material consideration in the determination of planning applications that sets out how 'saved' Policy 36 is to operate.

Community Strategy Linkage

2.7 The 'Community Strategy for Gloucestershire' states that to ensure a better environment we will *"minimise the amount of waste produced and increase recycling"* and that we will *"influence behaviour so that people use fewer resources and make more informed consumer choices"* (Theme 4, page 21). The six District's community strategies also embrace the notion of minimising waste and/or recycling.

Community Strategy Aims	
GCC	Minimise the amount of waste produced and increase recycling. Influence behaviour so that people use fewer resources and make more informed consumer choices.
Cheltenham Borough Council	To explicitly seek to reduce waste and increase recycling.
Cotswold District Council	Aim to minimise waste production and finite natural resource usage.
Forest of Dean District Council	Aim to develop a sustainable environment.
Gloucester City Council	To ensure that new developments are sustainable.
Stroud District Council	Aim to develop a sustainable environment.
Tewkesbury Borough Council	To seek additional recycling schemes.

2.8 This SPD represents a significant step in actioning these aims through the land-use planning system.

Joint Municipal Waste Management Strategy

2.9 A new Joint Municipal Waste Management Strategy (JMWMS) is being developed by the Gloucestershire Waste Partnership[10] (GWP) to replace the 2002 Strategy. The JMWMS will set out the strategy for future municipal (household) waste management in Gloucestershire.

[9] The content of the framework is set out in Gloucestershire's Minerals and Waste Development Scheme (first adopted April 2005) and methods of consultation and engagement with communities is contained in the Statement of Community Involvement (adopted December 2005).
[10] The GWP comprises the county's seven waste authorities - six Districts [Waste Collection Authorities] and the County Council [Waste Disposal Authority]. The current JMWMS is dated 2002.

2.10 Currently there are different collection practices used by Waste Collection Authorities. The aim of the JMWMS is that all waste activities undertaken by individual members of the partnership will eventually complement one another. The JMWMS may have implications for developers in terms of planning for future waste management practices (particularly for kitchen/catering wastes) during the occupation phase of the development. The choice of methods, receptacles and materials segregation is consequently an issue that is likely to require tailored solutions for each District (see Section 5 and Appendix D). Early liaison with the relevant waste collection authority is therefore a priority.

Sustainability Appraisal & Strategic Environmental Appraisal

2.11 This SPD has been subject to a Sustainability Appraisal (SA), which incorporates the requirements of the Strategic Environmental Appraisal (SEA) Directive (2001/42/EC). This process provides a framework for assessing the SPD's sustainability credentials. The full SA Report is available for people to view on-line at www.gloucestershire.gov.uk

Section 3 - During Design of the Proposal

Design stage checklist issues (reflects some issues from Occupation stage):

- There needs to be evidence in the WMS that the scheme's design has incorporated reasonable steps to eliminate waste (for example re-using existing infrastructure).
- There needs to be evidence in the WMS that the developer has considered using standard material sizes and/or pre-fabricated parts (including incorporating deconstruction principles for ease of disassembly), and there is a commitment to specifying precise material requirements to avoid wastage.
- There needs to be a commitment in the WMS that at least 10%* (by value) of the materials to be used will be comprised of recycled content and that sustainably sourced materials will be used where possible.
- The WMS needs to demonstrate that waste collection authority advice has been obtained on recycling box / residual bin requirements, and there needs to be a commitment by the developer to provide recycling receptacles and user information (see Section 5).
- The WMS needs to demonstrate that adequate access for waste collection vehicles and their operatives is provided and that there is sufficient space for:

  Residential - recycling boxes, storage areas, composting bins and wheelie bins;
  Commercial - recycling skips/bins and residual waste receptacles etc.
  Or space for communal facilities, if appropriate (see Section 5).

3.1 There are two elements of design: **construction** design (the materials and methods of building being employed); and **occupation** design (allowing sufficient space for waste bins, recycling boxes and composting bins, and thereafter access to them). Each are considered in turn.

3.2 This section is intended to provide informative guidance rather than a prescriptive 'must do' list. Sustainable construction methods are not inflexibly required but applicants are encouraged to demonstrate how they have considered various techniques. Similarly the solution to designing-in recycling facilities (and storage for them) will depend on the type/nature of scheme being developed. Innovation is encouraged through considering and adapting ideas from the case studies set out below. The overarching aim is to give people the means and opportunities for recycling at their home, work and during recreation. Further advice can be obtained from the

Envirowise Helpline (0800 585794) and WRAP (www.wrap.org.uk).

Construction

3.3 Designing-in good waste minimisation practice from the outset can save time and expense later in the process (see Case Study 1 below). The design stage encompasses all of the formative work undertaken prior to a planning application being submitted, including how, and with what, the development is intended to be built. For example, consideration should be given to pre-fabricating and pre-treating construction materials at the point of production. This reduces the need to have excess materials on-site. Other options include designing buildings to last multiple generations (build quality), or for ease of disassembly (for example using bolts instead of welds) or for re-use (using non-composite materials).

Case Study 1: The Great Western Hospital, Swindon

The Great Western Hospital was built on a new site at a cost of £100 million as a replacement to the existing Princess Margaret Hospital, which would have required major renovation and an increase in patient capacity in order to cope with double the population that it had originally been designed for in the 1950s. The project was financed by a private finance initiative (PFI) and the contractor was Carillion Building Special Projects.

Key Features

Sustainable approach to design, construction and operation:

- Design phase incorporated specifications aimed at reducing waste through the use of long-life-span materials.

Efficient use of resources:

- A target was set to reduce waste to landfill by 50%. Plasterboard was specially designed and made by the manufacturer to use a single rather than a double skin, i.e. one 15 mm panel rather than two 12.5 mm panels. The panel was designed to withstand wear and tear, and was pre-sealed, eliminating skimming and reducing the amount of paint used. Instead of being delivered on traditional wood pallets, the plasterboard was delivered on plasterboard pallets, which were sent back to the manufacturer.

Recyclable flooring:

- Many different types of flooring were compared to find the most sustainable option. The final choice of a mix of linoleum and rubber sole has improved durability over other flooring types, and requires lower maintenance and replacing less frequently. All this provided pre-emptive waste minimisation and reduction.

Facts and figures

Plasterboard: Overall, raw material inputs were reduced by 50% and the boards can be recycled at their end of life. The cost saving on labour and paint was £285,000. The manufacturer collected 717 tonnes of plasterboard waste in a separate skip for reuse. This reduced landfill costs by £4,860 and saved £14,940 in transport/skip hire.
Flooring: Direct environmental savings of £1.15 million are expected over the life-time of the hospital due to the durability of materials meaning that there is need for less frequent replacement.

Source: *Envirowise*

Use of Recycled Materials

3.4 The recycling of C&D waste has largely been market driven for a number of years. The imposition of the Landfill Tax and Aggregates Tax have made utilising recycled aggregates a commercially attractive option. Consequently many construction firms are likely to be already implementing many aspects of this SPD. Nevertheless, the best use of the material should be

encouraged, as particular recycled aggregates may be suitable for high-grade applications. Some recycled aggregates such as recycled planings contain hazardous materials such as tar. Such material will need to be stored as hazardous waste, as per the Environment Agency's recommendations, until it can be recycled into an appropriate end product (planings generally get re-used back in road construction or maintenance projects).

3.5 In 2004, the Government's Sustainable Building Task Force recommended the adoption of a minimum 10% standard for the use of recycled materials in construction. This has been adopted in principle by the Government, and is due to be published as good practice in the Code for Sustainable Building in 2006. In order to tie in with the Government's guidance the same minimum standard will be used in this SPD.

At least 10% of the total value of materials used in the construction project must be derived from recycled or re-used products.

3.6 By value[11], attaining at least 10% represents a modest target, which most developers are likely to be already achieving without realising. Research undertaken by the Waste & Resources Action Programme (WRAP) indicates that a percentage of around 30-40% could be achieved at cost neutral. Costs will however be dependant on site conditions and the individual build specification. Developers may therefore wish to demonstrate their 'sustainability credentials' by suggesting, justifying and implementing higher targets.

3.7 The purpose of setting a target is to get developers to pay attention to their performance. In reality, this means that they will have to consciously set up a system to measure performance, which will have secondary benefits of encouraging even better performance in the longer term. This target, however, will be monitored each year through the County Council's Minerals & Waste Annual Monitoring Report. WRAP are promoting a methodology, or toolkit, to try to make this process straightforward (see footnote).

3.8 The main contractor should take a lead role in managing the waste arising during construction. It would be good practice for developers to demonstrate that they have identified and implemented the most effective opportunities to increase the value of materials derived from recycled and re-used content, and quantify the improvement made. Experience has led the Environment Agency to believe that the use of recycled materials can deliver cost savings in certain instances[12]. Additional information can be found on the following websites: www.environment-agency.gov.uk and www.ogc.gov.uk.

[11] The value of materials derived from recycled/re-used content may be calculated using the following method: *(quantity of product A)* multiplied by *(as-delivered unit cost of product A, excluding installation cost)* multiplied by *(% recycled/re-used content by mass of product A).* The % recycled content (by value) for the overall project is then calculated by dividing the result by the total cost of all materials used.

[12] The Environment Agency procurement strategy 'Constructing a better environment' is based on the 'Achieving Excellence' principles of the Office of Government Commerce.

Case Study 3: Saving Money By Using Recycled Materials

Developers saved over £260k through using recycled aggregates on a 12-16 hectare (30-40 acre) retail development at Port Glasgow. The total cost of site preparation was around £5m and this aspect alone represents a recycled content by value saving of around 4%.

Use of Recycled Aggregates at Port Glasgow	
	Cost £ '000
Cost of buying primary aggregates	328
Cost to dispose of concrete hard-standing, including Landfill Tax	132
Total costs of using primary aggregates	***460***
On-site and local site recycling of concrete hard-standing	158
Cost of disposing of unsuitable concrete	38
Total costs of recycling	***196***
Total Direct Savings	**264**

Savings were made through on-site recycling of concrete hard-standing and using material from another local construction site. This minimised the need for primary materials and reduced disposal/transport costs.

Source: *www.wrap.org.uk/downloads/117-PortGlasgowDevelopment.543c93e5.pdf*

3.9 Demonstrating compliance does not require the evaluation of every single building product. A developer can concentrate on those elements (e.g. walls, floors) and products (e.g. concrete, blocks, boards) that contribute most significantly in exceeding the threshold requirement. On any project, typically, there are 5-10 changes or 'quick wins' (usually simple product substitutions) that deliver most of the potential to increase recycled content without increasing risk or cost of materials. In some instances it may even save money (see Case Study 3). Product substitutions for quick wins include certain brands of available mainstream manufactured products (such as blocks) which offer above-average recycled content, as well as materials which have been recycled on-site such as crushed brick used for hardcore. WRAP can provide guidance[13] (free of charge) to assist developers.

Occupation

3.10 Good design and layout in new development can help to secure opportunities for sustainable waste management, for example: providing storage areas for boxes/bins; facilitating kerbside collections; and identifying locations for secure community recycling. New development should make sufficient provision for waste management and promote designs and layouts that secure the integration of waste management facilities without adverse impact on the street scene. Facilities need to be safely located where vandalism, arson or spillage will not have adverse effects upon adjacent buildings and the

[13] WRAP has produced guidance and tools to assist developers seeking to incorporate materials with recycled content into construction projects, and has identified a significant range of products and specifications that could be used at no extra materials cost. Software tools enable developers to estimate recycled content with minimum effort and identify 'quick wins'. These resources are available free of charge. Further details can be found at www.wrap.org.uk.

wider environment, such as watercourses, Listed Buildings and Conservation Areas[14].

3.11 As a minimum, residential developments should incorporate external provision for storing recycling boxes/ wheeled bins. Where separate internal storage areas for recycling boxes are not practical the use of multiple 'under-sink bins' for segregating waste could provide the solution (see Case Study 2 below). For industrial/commercial developments, developers should allocate space for a range of secure waste storage facilities (for example, recycling skips) appropriate to the nature, scale and type of development. **Developers need to consult with the relevant local district council's waste management unit in order to determine the most suitable solution and segregation requirements.** Contact details are provided at the front of this SPD.

Case Study 2: BedZED Eco Village, Wallington, South London (using segregated under-sink bins)

Each BedZED home incorporates a colour coded, segregated under-sink bin. The colours relate to the type of waste: **green** for compostable vegetable waste; two **grey** sections - for glass, plastics, paper and tins; and **brown** for non-recyclables. This makes separating and transporting the materials to the corresponding outside bins easy.

3.12 Planning authorities should ensure that new development makes sufficient provision for waste management appropriate to the nature and scale of the development. To fulfil the requirements of Checklist issues 9 and 10 applicants should address the following matters where appropriate to their proposals:

- Making provision for home composting;
- Providing communal/purpose built areas[15];
- Providing sufficient space for recycling boxes and residual waste bins;
- Allowing space for deposit points and 'bring' facilities in relation to the types of waste generated and any necessary segregation areas;
- Providing suitable space to facilitate waste collection (residual and recyclates), including for town centre developments (e.g. flats, shops and offices).
- Design for easy access to facilities for both internal (occupier) and external (contractor) transfer of materials;
- Locate facilities in a secure place, taking into consideration potential for environmental harm and potential for vandalism.

Further examples are given in Section 5 and Appendix D. A statement should be included in the WMS setting out precisely how the proposal has been designed to incorporate those storage areas appropriate to the development.

[14] Further guidance on planning and the historic environment can be found in Planning Policy Guidance Note 15 (PPG15).
[15] These may require a license from the Environment Agency (contact details are provided at the front of this SPD) and will need to comply with Animal By Products Regulations (ABPR).

Section 4 - During Demolition and Construction

Demolition and construction stage checklist issues:

- The WMS needs to state the tonnage of construction and demolition waste that is likely to arise, set out by material type (e.g. wood, brick/concrete, soils, plastics etc.).
- The WMS needs to set out the method for auditing construction and demolition waste including a monitoring scheme of agreed waste management procedures to be undertaken, there also need to be corrective measures set out for if failures occur (see Appendix C).
- The WMS needs to set out how waste materials arising during demolition and construction will be segregated, and the measures that will be used for raising site operatives' awareness of waste minimisation (including how incoming packaging material is to be minimised and handled).
- The WMS needs to provide a commitment that waste materials are to be re-used on-site wherever possible, or where this is not possible that they are to be re-used off-site? (Justification needs to be provided for any waste that is proposed to be sent to landfill).
- The WMS needs to provide evidence that suitable provision been made for handling hazardous waste arising on-site, as advised by the Environment Agency.

4.1 Construction and demolition (C&D) waste accounts for 19% of all UK waste, of which 13 million tonnes are materials delivered to sites but never used[16] - this is brand new material going straight into skips. Encouraging developers not to over-order materials is therefore the starting point in minimising waste on building sites.

4.2 To assist in understanding and planning for the wastes that are likely to arise a Department of Trade and Industry (DTI) standard audit form can be used (set out in Appendix C). This will also make it easier for applicants to demonstrate to the local planning authority that they are meeting particular requirements of this SPD.

Examples of Good Practice

4.3 The good practice examples, in this section, offer ideas and practical solutions for minimising waste and saving money in different developments. It is hoped that these will encourage innovation whilst providing challenging yet realistic guidance. This approach is intended to stimulate continuous improvement rather than provide a target ceiling for applicants to meet.

[16] EA Sustainable Construction: Position Statement (August 2003)

Case Study 4: Billingham on Teeside

Nearly £30,000 was saved by using recycled materials in the construction of 68 bungalows and their access roads in Billingham on Teeside. The roads used foamed asphalt, a recent innovation, containing asphalt planings and quality controlled incinerator bottom ash; the sub-base under buildings used the same materials in an unbound form. The site was capped using aggregate recycled from local construction, demolition and excavation waste.

Source: *WRAP*

Case Study 5: GCHQ, Cheltenham

This £350 million project was a private finance initiative (PFI) at the Government Communications Headquarters (GCHQ) in Cheltenham, with Carillion Building Special Projects as the main contractor and the Foreign and Commonwealth Office as the client. The main waste management elements on this project were to design out waste and to set up contracts with subcontractors that resulted in economic and environmental benefits.

Examples of designing out waste included:

- The redesign of drainage lines to utilise spare materials rather than order new products, e.g. manhole rings and new pipes;
- Finished ground levels at the site ensured that the quantity of excavated materials moved off-site was minimal. All suitable excavated materials were used in haul roads and lay down areas.

Examples of economic and environmental benefits from contracts included:

- The contract with the earthworks contractor contained target costs and was set up in a way that encouraged the re-use of as much excavated material as possible;
- The contract with the fencing contractor encouraged the re-use of existing fencing as temporary site fencing instead of new products.

A re-use rate of 48% was achieved in this project.

Source: *Envirowise*

Case Study 6: Modernisation of Environment Agency's Anglian Region Offices

Rather than demolition, the Environment Agency offices in Cobham Road, Ipswich, were refurbished and refitted. Avoiding demolition and incorporating waste reduction measures in the design resulted in a substantial waste saving.

- The designers produced waste minimisation schedules, which categorise each element of the existing building according to whether it could:
  - remain in-situ;
  - be re-used on-site or off-site;
  - be recycled or disposed of as waste.
- Use of prefabricated cladding panels reduced waste during construction.
- Re-use on-site of materials such as doors, sanitary fittings, built-in furniture, windows and bricks.

To eliminate the unnecessary waste that is often produced when working to meet tight deadlines, a tight construction programme was not imposed and there were low damages for late completion.

Source: *Envirowise*

4.4 Various documents put forward ideas for good practice and methodologies that can be followed. Examples include: the Demolition Protocol[17]; the DTI's 'Site Waste Management Plans' (see Appendix C); the CEEQUAL Manual[18]; and the BREEAM[19] website. There are also other initiatives such as the National Industrial Symbiosis Programme[20] that facilitates links between industries from different sectors to create sustainable commercial opportunities and improve resource efficiency. However, the SPD does not delegate responsibility to these documents or initiatives. It instead identifies them as sources of information that may be of use.

4.5 The segregation of waste at source is usually more appropriate than off-site sorting, provided there is sufficient space in which to do so. Managing wastes, in particular material segregation, can be improved by staff training and awareness raising. For example, introducing systems and signage[21] to help prevent contamination of one material (e.g. timber sorted in a skip) by another (e.g. paint discarded in that same receptacle). Or by colour coding different materials that are brought onto site depending on how easy they are to recycle[22]. This is also important during the fitting-out of buildings when it is likely that a significant amount of packaging waste will be generated.

4.6 The aspiration of the SPD is to divert 100% of construction/demolition waste from landfill. Consequently disposal is the last option. However, if disposal is the only viable option (for example with contaminated soils), the reasons for this must be clearly demonstrated in the WMS, and its final destination justified in respect of proximity to the source of arising. The Environment Agency would be able to advise of specific disposal requirements (contact details are provided at the start of this document).

On-Site Crushing and Screening

4.7 Operating mobile plant requires a waste management license[23]. Some small scale recovery may be exempt from licensing but they would still require registering with the Environment Agency. In addition, District Councils may impose conditions on a planning permission to restrict mobile plant use if it is considered that their use would have an adverse impact upon neighbouring properties.

4.8 Government guidance cited in the Demolition Protocol suggests that on-site crushing/screening is not appropriate on sites smaller than 0.1ha (1000m²) for

[17] Demolition Protocol Implementation Document (date unknown) commissioned by London Remade
[18] CEEQUAL Manual, Version 3, 30th June 2004
[19] BRE's environmental assessment method for new and existing buildings – www.breeam.org
[20] NISP website is http://www.nisp.org.uk/index.asp
[21] A set of national standard signage for skips will be downloaded free of charge from www.wascot.org.uk/construction/colourcoding.htm
[22] Colour coding materials entering a site: green = untreated, recyclable; Amber = treated, but still of some recyclable use; Red = treated with hazardous substances.
[23] The Mobile Plant Licensing regime is currently in the process of being amended (Environment Agency, July 2005).

environmental/amenity reasons[24]. The Environment Agency will be able to advise applicants on the appropriateness of such activities (contact details are provided at the start of this document).

Hazardous Wastes

4.9 Consideration needs to be given to reducing hazardous waste generation. A small volume of hazardous waste can have greater pollution potential than a large tonnage of other wastes. By substituting hazardous materials for non-hazardous ones at the design stage, this will make the management of waste easier during both the construction phase and then any future demolition operations.

4.10 Where materials are used that could cause environmental harm, measures must be put in place to minimise the pollution potential. Additionally, the burning of waste materials on building sites is a practice that should be discouraged. District Environmental Health Officers should be able to advise on best practice, and the Environment Agency has prepared pollution prevention guidance for developers, which can be found on-line at: www.environment-agency.gov.uk/business/444251/444731/ppg/

[24] LAPC + LAPPC Risk Method, Revised April 2004

Section 5 - During Habitation of Buildings

Occupation stage checklist issues (repeated from 'Design Stage'):

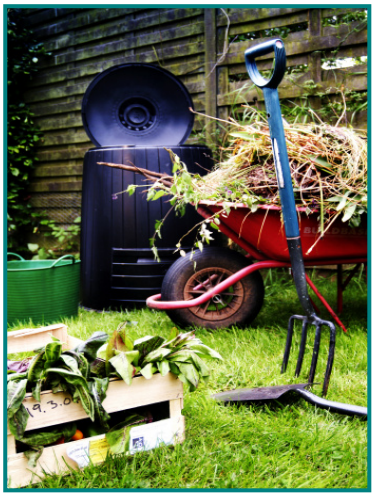
- The WMS needs to demonstrate that waste collection authority advice has been obtained on recycling box / residual bin requirements, and there needs to be a commitment by the developer to provide recycling receptacles and user information.
- The WMS needs to demonstrate that adequate access for waste collection vehicles and their operatives is provided and that there is sufficient space for:

  Residential - recycling boxes, storage areas, composting bins and wheelie bins;
  Commercial - recycling skips/bins and residual waste receptacles etc.
  Or space for communal facilities, if appropriate.

5.1 Once a building is being occupied waste will be generated. This should be managed using the same waste minimisation principles as for its design and construction. Applicants therefore need to address the likely types, quantities and sources of waste generation during the habitation of new or refurbished dwellings.

5.2 People will recycle more if the infrastructure is in place to make it easy for them to do so[25]. Consequently, developers will be required to provide allocated space/areas for bin/box storage and home or communal[26] composting (see Section 3). The type and size of residual recycling boxes and waste receptacles (wheelie-bins, sacks etc.) will need to be appropriate to the size/nature of the development proposed and the waste collection regime in operation (see below). To assist in making this provision, Section 106 legal agreements may be sought from developers in accordance with the adopted Gloucestershire Waste Local Plan, paragraph 5.130 (see SPD Appendix B).

5.3 In addition, user information needs to be supplied to new occupiers of buildings. This could include information on the recycling and waste disposal services provided by the local waste collection authority. Developers should, in conjunction with the local collection authority, make this information readily available in an information pack.



Household Waste Collection

5.4 District Councils undertake the collection of waste from homes. They are referred to as Waste Collection Authorities (WCA). Providing the means to facilitate this

[25] Regional Waste Strategy for the South West 2004 – 2020 (page 45)
[26] With communal composting facilities, it is important to consider the implications of compliance with the Animal By-Products Regulation (ABPR) and any necessary Environment Agency waste licensing/exemption requirements.

collection will greatly assist authorities to meet their recycling targets. However, due to historical contracts there are different collection schemes in operation in each of the county's six districts. Although the Gloucestershire Waste Partnership[27] is working towards a more coordinated approach it will take time. It is therefore imperative that in the interim applicants/developers discuss the issue of household waste collection with the appropriate District Waste Collection Officer (contact phone numbers are provided at the front of this document).

5.5 Detailed discussions must be held with the WCA and in some instances the Waste Disposal Authority (the County Council), prior to submission of the WMS to secure the correct type of provision for the scheme being proposed. This will help to:

- reflect existing waste management provision;
- avoid conflict with waste management systems currently in operation;
- determine collection arrangements for the waste;
- influence transportation methods, distances and routes to waste disposal facilities;
- take account of the needs of recycling/residual waste collection vehicles in road layouts.

Commercial Waste Collection

5.6 All commercial premises produce waste. Consequently, waste issues need to be considered in the design, construction and habitation aspects of offices/shops/factories etc. as comprehensively as they are for residential premises. This includes storage areas and receptacles for both recyclable materials and those for disposal. The areas/receptacles should be of a sufficient size/capacity to handle fluctuations in arisings, due for example to increased customers during holiday periods. In addition, the size of waste/recyclate collection vehicles is increasing and, as with residential development, the practicalities of waste collection from commercial premises also need to be considered as part of the WMS.

5.7 Occupiers of commercial premises, such as supermarkets, are encouraged to operate a waste minimisation policy during their occupation of the site. This could be used to drive down waste at source, such as reduced product packaging, leading to greater environmental benefits beyond the boundary of the site itself.

[27] The Gloucestershire Waste Partnership consists of representatives from the six Districts and the County Council.

Appendix A
Glossary & Abbreviations

BREEAM	BRE's Environmental Assessment Method	This is used to assess the environmental performance of both new and existing buildings. It is regarded by the UK's construction and property sectors as the measure of best practice in environmental design and management. (BRE – Building Research Establishment).
DTI	Department of Trade and Industry	This is a Government Department with the aim to create the best environment for business success in the UK.
EA	Environment Agency	The body responsible for regulating waste management and pollution control in England.
ES	Environmental Statement	A systematic and comprehensive analysis of the environmental impact of a proposed development presented in non-technical form for public scrutiny.
GCC	Gloucestershire County Council	The Waste Planning Authority for Gloucestershire
GWP	Gloucestershire Waste Partnership	The GWP comprises the county's seven waste authorities - six Districts [Waste Collection Authorities] and the County Council [Waste Disposal Authority].
JMWMS	Joint Municipal Waste Management Strategy	A statutory document setting out a mainly technical strategy (i.e. future requirements for waste management facilities, the nature of those facilities, favourable locations etc.) for municipal waste management in the County. The JMWMS is prepared jointly by the Gloucestershire Waste Partnership (GWP).
LATS	Landfill Allowance Trading Scheme	Local authorities are allocated 'allowances' for the amount of biodegradable municipal waste they can landfill each year until 2020. They can trade allowances with each other, sell allowances if they have diverted more waste from landfill (e.g. recycling) or buy more if they are likely to exceed their own allocation.
LAPC	Local Air Pollution Control	This is Part I of the Environmental Protection Act (EPA) 1990 (The EPA 1990) as the framework for controlling industrial pollution now replaced by the LAPPC.
LAPPC	Local Authority Pollution Prevention and Control	LAPPC is part B of the Pollution Prevention and Control (PPC) Act 1999 and the PPC Regulations 2000 which is the framework for controlling industrial pollution, replacing the LAPC. LAPPC focuses on controlling emissions to air only.
PPG	Planning Policy Guidance Note	These set out the Governments policies on different aspects of planning. They range from key objectives, operational principles to guidance and advice on more specific issues. Local planning authorities must take their content into account in preparing structure and local plans. Currently being superseded by PPS's.
PPS	Planning Policy Statement	PPS's replace PPG's and are prepared by the government after public consultation to explain statutory provisions and provide policy and guidance to local authorities and others on the operation of the planning system. Local authorities must take their contents into account in preparing their Local Development Frameworks.
RSS	Regional Spatial Strategy	Sets out the region's policies in relation to the development and use of land and forms part of the *development plan* for local planning authorities. Planning Policy Statement 11 'Regional Spatial Strategies provides detailed guidance on the function and preparation of Regional Spatial Strategies.

SA	Sustainability Appraisal	A tool for appraising policies to ensure they reflect sustainable development objectives (i.e. social, environmental and economic factors) and required in the Act to be undertaken for all local development documents.
SEA	Strategic Environmental Appraisal	A process for testing that environmental concerns are integrated into the policy appraisal of development plan preparation. SEA of this SPD is incorporated within the SA.
SEPA	Scottish Environment Protection Agency	The Scottish equivalent of the Environment Agency.
SPD	Supplementary Planning Document	Provide supplementary information in respect of the policies in *Development Plan Documents*. They do not form part of the Development Plan and are not subject to independent examination but are required to follow formal statutory regulations in their preparation.
SPG	Supplementary Planning Guidance	Replaced by SPDs, these were prepared under the previous planning system and fulfilled a similar function to the new style SPDs.
SWMP	Site Waste Management Plan	This is a document that identifies the waste minimisation that all onsite personnel are required to follow.
WCA	Waste Collection Authority	Authority responsible for the collection of household waste and preparation of Waste Recycling Plans. In Gloucestershire this is the role of District Councils.
WDA	Waste Disposal Authority	Authority responsible for the disposal of local authority collected waste, and the disposal of waste delivered to Civic Amenity Sites or Household Waste Recycling Centres. In Gloucestershire this is the role of the County Council.
WLP	Gloucestershire Waste Local Plan	A statutory land-use plan forming part of the development plan for Gloucestershire. Its purpose is to set out detailed land-use policies in relation to waste management development in Gloucestershire.
WMS	Waste Minimisation Statement	A document stating the methods for minimising and managing waste deriving from a development proposal during its design, construction and occupation.
WRAP	Waste Resources Action Programme	WRAP is a Government funded body set up to promote sustainable waste management. It was established in 2001 in response to the UK Government's Waste Strategy 2000. WRAP gained additional responsibilities in 2003 as a result of the Government's response to the review of waste policy undertaken in 2002 by the Prime Minister's Strategy Unit (Waste Not, Want Not, a Strategy for Tackling the Waste Problem in England). WRAP is set up as a not-for-profit company limited by guarantee by DEFRA and the DTI.

Appendix B
County and Regional Waste Minimisation Policies

Gloucestershire Waste Local Plan (Adopted October 2004)

Policy 36 – Waste Minimisation

Proposals for development requiring planning permission shall include a scheme for sustainable management of the waste generated by the development during construction and during subsequent occupation. The scheme shall include measures to:

i. **Minimise, re-use and recycle waste; and**
ii. **Minimise the use of raw materials; and**
iii. **Minimise the pollution potential of unavoidable waste; and**
iv. **Dispose of unavoidable waste in an environmentally acceptable manner.**

Initiatives to reduce waste generation will be encouraged throughout the County.

5.128 The waste implications of all development should be considered at the earliest possible stage. As local planning authorities, the County and the District Councils have a role to play in ensuring that new development contributes to the objectives of the Waste Strategy for Gloucestershire (June 1997)[28]. This policy is not just applicable to development by the County Council but to all development, as indicated in the National Waste Strategy (Waste Strategy 2000). The policy is part of the set of policies that make up the Development Plan as applied through Section 54A of the Town and Country Planning Act 1990 (as amended). Waste is not restricted by administrative boundaries and neither should consideration of it as part of any proposed development.

5.129 Waste generation and disposal implications of new development is a legitimate planning consideration. Planning Applications should contain a statement outlining waste generation and arrangements for minimisation, re-use, recycling, processing and disposal. For development requiring an Environmental Statement, the statement should include a detailed evaluation of the waste generation impact of the proposals.

5.130 This policy should be used in combination with other policies of the Development Plan. Waste minimisation does have a practical land use element to it. In relation to household waste, it is proposed that through conditions or a section 106 agreement all new housing developments where appropriate should be supplied with home composting bins and booklets on how to use them by the developer.

5.131 In relation to commercial and industrial wastes, developers should provide facilities within: business parks; industrial estates; retail parks; and science and technology parks; that treat and manage the majority of the waste produced internal to the site. This is intended to encourage the use of waste locally, stimulate new businesses, reduce traffic and is in line with the proximity principle. These facilities should be secured through condition or a section 106 agreement with the developer wherever possible, if not included in the original development proposal.

5.132 The Gloucestershire Waste Management Strategy (1997)[14] promotes beneficial use of recyclable materials. Without adequate markets for the substantial volumes of recycled materials the strategy would be jeopardised. This partly depends on the private sector creating and marketing new and innovative products and clearly demonstrating that these recyclable materials can meet the standards and specifications achieved by established materials. This is particularly important for the construction industry. It also depends on developing a different attitude to using recycled materials and almost involves an element of 'positive discrimination' in favour of recycled products.

5.133 Minimising the volumes of waste we produce is the other half of the waste minimisation equation. It will mean that consumers will have to review issues such as manufacturing processes and purchasing policies. On the face of it this appears to have limited specific land use implications but it may create the need to modify or change the layout and design of existing or new development. In such cases, Local Planning Authorities should take a positive and sympathetic approach to such needs.

[28] Please note that this document has since been replaced by the Municipal Waste Management Strategy 2002, which in itself is currently in the process of being revised.
[14] Please note that this document has since been replaced by the Municipal Waste Management Strategy 2002, which in itself is currently in the process of being revised.

Regional Waste Strategy (Adopted 2004)

Policy P10.8 – Design Quality

Local and regional authorities and agencies and others should promote sustainable construction and demolition in accordance with the regional sustainable construction charter by:

(i) requiring that new development should be designed and planned so as to minimise the production of waste - development plans should encourage development proposals to minimise the use of raw materials and, reuse and recycle waste generated during construction and demolition;

(ii) before granting planning permission for major development involving demolition or the production of waste materials, encouraging developers to provide information on the proposed method of dealing with waste so as to minimize its production and maximise reuse and recycling.

Regional Spatial Strategy (Submission Version June 2006)

Emerging Policy W4 - Controlling, Reusing and Recycling Waste in Development

All proposals for larger-scale development should include as part of the planning application a report comprising an audit of waste materials on site and proposals for how waste will be managed over the lifetime of the development.

7.4.13 Developers should indicate how facilities will be provided within the new development to enable the collection of recyclates from individual properties, including access by collection vehicles. In addition the report should take account of local policies for the street scene, local standards for the storage of sorted and unsorted wastes for collection and the local services provided by the waste collection and disposal authorities. This will be particularly important when authorities and developers are producing Master Plans for large mixed-use developments and urban extensions under Development Policy F.

7.4.14 A waste audit should cover how waste materials created by the development can be reused, with priority given to the reuse of waste materials on site, as part of the development. The audit should also include how the use of raw materials can be minimised during development and how the use of recycled materials can be maximised.

7.4.15 Proposals by established businesses to provide facilities for the on-site minimisation, re-use or recycling of wastes created by their business premises should be approved, subject to other policies and proposals to establish waste minimisation, re-use and recycling industries in recognised industrial areas should be approved, subject to other policies.

Appendix C
DTI Site Waste Management Plan (SWMP) Nine Step Process

The DTI guide sets out a nine-step strategy for preparing a SWMP for projects worth in excess of £200,000. A standard form for preparing a SWMP is set out overleaf.

Step 1 – Identify who is **responsible** for producing the SWMP and ensuring that it is followed – and make sure that they know who they are! Different individuals may be responsible during the planning stages and the site-work stages. They must know that they are responsible and what they are responsible for. They must have sufficient authority to ensure that others comply with the SWMP.

Step 2 – Identify the types and **quantities of waste** that will be produced at all stages of the work programme/plan.

Step 3 – Identify waste **management options** including reference to the waste hierarchy, on- and off-site options and pay particular attention to arrangements for identifying and managing any hazardous wastes produced.

Step 4 – Identify waste **management sites** and contractors for all wastes that require them and ensure that the contracts are in place, emphasising compliance with legal responsibilities such as the Duty of Care. (See Site Data Form).

Step 5 - Carry out any necessary **training** of in-house and sub-contract staff so that everyone understands the requirements of your Site Waste Management Plan.

Step 6 – **Plan** for efficient materials and waste handling and do this early enough bearing in mind any constraints imposed by the site and its location. Based upon steps 2-6 develop indicative percentage targets for each disposal or waste stream and record on datasheet.

Step 7 – **Measure** how much waste and what types of waste are produced and compare these against your SWMP to make sure you are on track to manage all wastes properly and to learn lessons for next time you have to produce an SWMP. These figures should be recorded on the datasheet.

Step 8 – **Monitor** the implementation of the SWMP to make sure that all is going according to plan, be prepared to update your plan if circumstances change or instigate corrective measures if failures are identified. Learn lessons for next time from good practice and benchmarking.

Step 9 – **Review** how the SWMP worked at the end of the project and identify learning points for next time – share these with colleagues who may be involved in preparing or using SWMPs so that they can benefit from your experiences also.

You may wish to compare your achieved percentages against your SWMP targets on the datasheet and identify learning points.

Form for preparing a Site Waste Management Plan (SWMP)

(Source: DTI voluntary code of practice for construction contractors and clients, 8/7/04)

Please note that whilst the DTI data sheet states "Quantity in m³", for planning purposes this would be better expressed as a tonnage.

Annex B. Site Waste Management Plan data sheet

Project name	
Project address/location	
Main contractor	
Person responsible for waste management on site (name and job title)	
Person and company completing this form, if different	

Types of waste arising (add more rows if needed):

Material	Quantity (in m³)						
	Re-used on-site	Re-used off-site	Recycled for use on-site	Recycled for use off-site	Sent to recycling facility	Sent to WML exempt site	Disposal to land-fill
Inert							
Active							
Hazardous							
Totals (in m³)							
Performance score as % *							
SWMP Target %*							

**There is an option to develop this form as a measurement tool to evaluate against each waste stream.*

Appendix D
Provision for Waste Recycling/Composting in Developments

Housing

Specific provision needs to be guided by the number of dwellings provided and location of existing provisions in the surrounding area. Specific percentages for recycling/composting space per dwelling have not been proposed due to the different requirements of occupants, however the following provides a useful guide.

Individual Dwellings (houses)

- Space for recyclables should take account of standard dimensions of recycling boxes (insert dimensions for each District's boxes and standard wheelie bins, reflecting also different collection regimes);
- Utility rooms, designed-in kitchen space, garages, or adjacent to exterior walls provide the most common solutions;
- Home composting bin provision encourages separation and diversion of organic kitchen and garden wastes. Such provision requires discussion between Local Planning Authority and developer at the pre-application stage to assess viability.

Individual Dwellings (flats / apartments)

- Where space allows, initiatives such as those listed above could be included, especially where gardens/garages are provided;
- Storage areas or a chute system could be provided on each floor or level of blocks of flats / apartments – storage could be lockable / covered and located close to lifts. Chutes would need to meet relevant design standards to ensure health and safety of residents and operatives and to avoid hazard. Regular collection and maintenance would be essential to avoid attracting vermin.

Groups of Dwellings (houses, flats and/or apartments)

- Provision of a 'bring' facility such a recycling banks for glass, paper, cans etc;
- Provision of community composting scheme where there is a nearby use for the product;
- Where community composting is to be provided, operations should be 250 metres[29] from sensitive land uses and will need to be designed, located, operated and managed to avoid odour and vermin impacts. Consultation with the Environment Agency on location and controls will be essential. Such requirements are likely to impinge on the viability of community schemes;
- Any communal storage facilities must be designed to ensure security of storage to avoid vandalism / fly tipping.

[29] If community composting is proposed closer than 250m additional assessments may be required.

Commercial, Transport, Leisure, Community, Tourism Development

The exact nature of the development in question will influence the type of waste materials to be produced by the premise occupier(s). This can be assessed by the applicant when drawing up details of the development prior to the submission of an application for planning permission.

Individual Premises

- Provision of purpose built storage areas for both waste materials (for disposal) and recyclables such as packaging materials;
- Where appropriate, provision of space for the storage of organic waste, where this is specified as collectable by an identified waste collection / management contractor. Storage for such materials must be designed to minimise odour and vermin (the Environment Agency and Environmental Health Officers would need to advise on the appropriateness of particular facilities);
- Provision of deposit points within premises for workers/visitors/customers to place recyclables.

Groups of Premises

- Provision of purpose built storage areas for both waste materials and recyclables that can be used and jointly serviced by all occupiers of the development;
- Where appropriate, provision of jointly serviced space for the storage of organic waste, where this is specified as collectable by an identified waste collection / management contractor. Storage for such materials must be designed to minimise odour and vermin (the Environment Agency and Environmental Health Officers would need to advise on the appropriateness of particular facilities);
- Consideration of the implications of compliance with the Animal By-Products Regulation (ABPR) and any necessary Environment Agency waste licensing / exemption requirements should be given;
- Communal storage will need to be designed to ensure security;
- Provision of deposit points within premises (inside and outside of buildings) for workers/visitors/customers to place recyclables;
- Provision for an area for secure communal recycling facilities;
- Adequate access for collections will need to be designed.

Car Parking Facilities

- Provision of 'bring' facility such as a collection of recycling banks for glass, paper, cans etc where appropriate;
- Specific provision needs to be guided by the likely number of users of the car park and its location in terms of transport access for vehicles servicing the facility (e.g. proximity and ease of access).

[Appendix D has been prepared based on initial work carried out by Wiltshire County Council (2005). It has been revised and reproduced with their kind permission.]

Appendix E
List of Useful Documents and Websites

BREEAM website www.breeam.co.uk

CEEQUAL - The Civil Engineering Environmental Quality and Assessment Scheme – Scheme Manual Version 3 (30th June 2004)

CIRA Demonstrating waste minimisation benefits in construction

Construction Best Practice Programme: www.cbpp.org.uk

DTI Site Waste Management Plans Guidance for Construction Contractors and Clients (July 2004)

DETR Building a better quality of Life (Jan 2004)

Eco-Recycle Victoria Australia Guidelines for Preparing a Waste Reduction Strategy for Construction

English Nature Sector Analysis Construction and Development (Jan 2004)

Environment Agency Position Statement on Sustainable Construction (Jan 2004)

Environment Agency 'Pollution Prevention Guidance Note 6' "Working at Construction and Demolition Sites" (undated)

Gloucestershire Waste Local Plan (October 2004) www.gloucestershire.gov.uk

Government of Australia Dept of Environment and Heritage - Waste Reduction Guidelines for the Construction and Demolition Industry (Nov 2002)

Institute of Civil Engineers (London Remade, Cory Environmental) Demolition Protocol Implementation Document

Managing Construction and Demolition Debris (North Carolina)

National Industry Symbiosis Programme: www.nisp.org.uk

National Waste Strategy for England and Wales (2002)

New South Wales Government - Code of best practice for construction and demolition waste

ODPM Strategic planning for sustainable waste management (Jan 2004)

Regional Waste Strategy 'From Rubbish to Resource' (South West Regional Assembly, October 2004)

Resource Venture (Seattle, USA) Contractors guide to recycling

Waste Material Exchange website: www.waste-matchers.co.uk

WRAP, The Demolition Protocol: Aggregates Resource Efficiency in Demolition and Construction - Volume 1 for Policy-makers and Planners (undated)

Welsh Assembly - Waste Minimisation, Good Practice Guide (Jan 2004)

Wiltshire and Swindon Waste Minimisation SPG (March 2005)

Appendix F
Examples of Standard Conditions

1. Standard decision notice condition requiring the applicant/developer to adhere to WMS:

The development hereby permitted shall be undertaken in accordance with the approved waste minimisation statement (Reference…….). The areas allocated on Plan/Drawing No. …….. for recyclate and/or compostable material storage shall only be used for that purpose. There shall be no deviation from this WMS unless with prior written consent from the local planning authority.

Reason: to ensure that dedicated storage areas for waste materials are maintained as such and that the development conforms with waste minimisation requirements in the adopted Gloucestershire Waste Local Plan (Policy 36) and the Gloucestershire Waste Minimisation Supplementary Planning Document.

2. Standard condition for outline applications to set out what needs to be submitted at reserved matters stage:

A Detailed Waste Minimisation Statement must be submitted as part of the reserved matters applications for each strategic phase of the development agreed under Condition (….) of this permission. The Detailed Waste Minimisation Statement will form part of any subsequent approval and shall include details of the types and volumes of construction and demolition waste likely to be generated including measures to minimise, re-use and recycle that waste, and minimise the use of raw materials. All construction and demolition waste must be re-used on site unless it can be demonstrated to the satisfaction of the local planning authority that this is not the most sustainable option. Where waste is generated that cannot be re-used/recycled either on or off-site the Detailed Waste Minimisation Statement must set out proposed measures for the disposal of this waste in an environmentally acceptable manner. Thereafter all of these provisions shall be implemented in accordance with the agreed Detailed Waste Minimisation Statement unless the local planning authority give written consent to any variation.

Reason: to ensure that the development conforms with waste minimisation requirements in accordance with the adopted Gloucestershire Waste Local Plan Policy 36 and the Gloucestershire Waste Minimisation Supplementary Planning Document.

3. Example of a condition for outline applications to set out what needs to be submitted at reserved matters stage relating to the Occupational Life of the Development:

A Waste Minimisation Statement must be submitted as part of the reserved matters applications for each strategic phase of the development agreed under Condition (….) of this permission. This Waste Minimisation Statement will form part of any subsequent approval and is to be agreed in writing by the local planning authority. It shall include:

- Provision within the residential development of "on-site" storage receptacles for recycling a range of materials as specified by the Waste Collection Authority, at identified locations and appropriate to the number of residential units;
- Provision within commercial and business areas of facilities or allocated areas to sort, store, treat and manage a majority of the waste produced internal to each of those parts of the site;
- Suitable accessing arrangements for recyclate/waste collection vehicles.

Thereafter, within each strategic phase of the development to which the Waste Minimisation Statement refers, no building may be occupied until the provisions set out in the approved Waste Minimisation Statement have been implemented to the satisfaction of the local planning authority in conjunction with the Waste Collection Authority. All of the approved measures shall thereafter be maintained unless the local planning authority gives written consent to any variation.

Reason: to ensure that the development conforms with waste minimisation requirements in accordance with the adopted Gloucestershire Waste Local Plan Policy 36 and the Gloucestershire Waste Minimisation Supplementary Planning Document.

4. Standard condition to ensure submission of a completion report for monitoring purposes:

Prior to occupation of the approved development a statement shall be submitted to the local planning authority demonstrating how the elements contained in the approved waste minimisation statement (Reference……) and detailed waste management statement *(if reserved matters application)* have been implemented. The development hereby permitted shall not be occupied until local planning authority approval for that statement has been given.

Reason: to ensure compliance with the WMS and to facilitate monitoring of waste arisings/management from this development in accordance with the adopted Gloucestershire Waste Local Plan Policy 36 and the Gloucestershire Waste Minimisation Supplementary Planning Document.

Waste Minimisation in Development Projects

(incorporating reduction, re-use and recycling requirements)

September 2006

council direct

(01452) 505345

www.gloucestershire.gov.uk

GCC · Cheltenham Borough Council · Cotswold District Council · Forest of Dean District Council · Gloucester City Council · Stroud District Council · Tewkesbury Borough Council