WASTE MINIMISATION STRATEGY

HEYFORD PARK,
RAF UPPER HEYFORD,
UPPER HEYFORD,
OXFORDSHIRE

Pegasus Planning Group
6-20 Spitalgate Lane
Cirencester
Gloucestershire
GL7 2DE

Telephone: (01285) 641717 Facsimile: (01285) 885115

PPG Ref: CIR.N.0111

Date: August 2007

CONTENTS:

Page No:

1. INTRODUCTION

1.1 The following sets out the broad waste minimisation principles that will be applied to the design, construction and occupation of the site in the form of a Waste Management Strategy (WMS).

1.2 This document is prepared in response to the requirements established in the emerging Oxfordshire Minerals and Waste Development Framework 'Consultation Paper (February 2007), The Oxfordshire Joint Municipal Waste Management Strategy 'No Time to Waste' (August 2006) and the Oxfordshire Joint Household Waste Management Strategy (August 2006).

1.3 The adopted Oxfordshire Minerals and Waste Local Plan was approved in July 1996. However, due to its age has been superseded by the above documents, particularly in relation to EU Directives and Central Government guidance on waste minimisation. As such it is the above documents which provide the up to date framework for waste planning and minimisation within Oxfordshire.

1.4 It is proposed that Detailed Waste Management Strategies (DWMS) will be prepared for the residential and employment areas of the site prior to development commencing. This will take place on an agreed phased basis with prior agreement of the Local Planning Authority (Cherwell District Council) and appropriate advice from the Waste Planning Authority WPA, (Oxfordshire County Council).

1.5 The DWMS will set out, for each agreed area, details of the treatment, recycling and re-use of waste arising from the construction and occupation of the development.

1.6 The format of this statement is as follows, Section Two sets out the recycling targets locally, nationally and internationally. Section Three addresses the types of waste generated during construction and occupation. Section Four focuses on the Waste Management Strategy for the development of Heyford Park and how this will perform in relation to the differing types of waste anticipated as arising. Section Five includes proposed Planning Conditions.

2. RECYCLING TARGETS

2.1 The Adopted Oxfordshire Waste Local Plan (1996) notes that "In recent in years an average of some 1.1 million tonnes per annum of waste has been generated in Oxfordshire", (Paragraph 3.22). In 2005/06, Oxfordshire generated approximately 311,000 tonnes of municipal waste. "**Around 96% of this arising from households with the rest arising form other activities such as street sweepings and litter collections and trade waste**," (Joint Municipal Waste Management Strategy, Paragraph 1, Page 5).

2.2 The Preferred Options document for the Oxfordshire Minerals and Waste Development Framework (2007) identifies the following waste arising from Oxfordshire:

Waste Type	Total Waste Arising/ Managed	Landfilled	Recycled or Composed	Recovered	Other Treatment
Construction & Demolition	874,640	275,940	317,520	281,700	–
Commercial & Industrial	901,000	422,000	287,000	5,000	192,000
Municpal	311,152	211,727	99,414	–	–
All Waste	2,086,792	909,667	703,934	281,700	192,000

Figures for construction & demolition waste are for 2003; commercial & industrial waste figures are for 2002/03; figures for municipal waste are for 2005/06.
(Source : *Oxfordshire MWDF Core Strategy Preferred Options, P86)*

2.3 These figures do not include municipal waste 'imported' from outside the County, in particular London, which is managed and disposed of in Oxfordshire.

2.4 Most construction and demolition waste is recycled (36%) or recovered (32%) mainly for use in restoration of mineral workings and landfills, land improvement and engineering works), and about 32% is disposed to landfill. Roughly 32% of commercial and industrial waste is recycled with 47% being disposed to landfill and a further 21% being treated in some other way. Of the 311,000 tonnes of municipal waste produced in Oxfordshire in 2005/06, 32% was recycled (20.7%) or composted (11.2%), with 68% being disposed, almost all by landfill. For household waste, the rate of recycling or composting in 2005/06 was 33.4%.

2.5 In comparison to other Counties in England Oxfordshire performs well. It produces less waste per person than any other County and achieved a 1.8% reduction in waste per person in 2005/06. It is placed in the top 25 % of all English Counties for recycling. In the same period Oxfordshire collectively achieved a recycling rate of 33%. This was 3% ahead of the statutory target set by Central Government. As little as three years ago they were only recycling 20%.

2.6 The need to change the manner in which waste is dealt with has been recognised by Central Government and European Union. This has resulted in the introduction of policies, legislation and fiscal measures intended to transform the way in which waste is currently managed. This is driven by an aim to move away from a society that depends heavily on landfill to one which is led by the principles of the waste management hierarchy, as discussed later.

2.7 The European Union Landfill Directive (1999/31/EC) and Waste Strategy 2000 have set strict mandatory targets for reducing the amount of waste going to landfill or landraising. By 2010 the target is to reduce biodegradable municipal waste landfilled to 75% of that produced in 1995 and by 2013 to 50%.

2.8 Central Government proposes ambitious recycling targets but also recognises the need to 'adapt and broaden' its approach to waste management and environmental stewardship. There needs to be greater emphasis on buying and making products that create less waste, and the development of a joined up approach to waste integrating the way in which waste is managed by local authorities and by business. Most importantly Central Government wants to 'secure long-term sustainability' and change the way waste is considered, with waste being seen as a material for re-use or conversion into a form that will provide the 'most economic, social and environmental gains'.

2.9 The National Waste Strategy introduces aspirational targets for reducing industrial and commercial wastes and for the recycling, composting and recovery of municipal wastes.

2.10 Two of the main UK drivers for the reduction of waste are the Biodegradable Municipal Waste (BMW) landfill diversion targets as laid down by the Waste and Emissions Trading Act (WET) 2003, and statutory recycling and composting targets (Both of which are Best Value Performance Indicators).

2.11 Within Oxfordshire one of the highest priorities is the diversion of biodegradable waste from landfill. The EU Landfill Directive (1999) set strict targets to reduce the amount of active biodegradable municipal waste such as paper, card, garden and food waste allowed to go to landfill to decrease the levels of greenhouse gases emitted to the atmosphere, with the enacting of the Waste and Emissions Trading Act (WET) 2003, introducing a Landfill Allowance Trading Scheme (LATS) for England. This scheme aims to implement the requirements of the Landfill directive; that is to reduce biodegradable municipal waste (BMW) sent to landfill to 35% of 1995 levels by 2020. This will ensure that Central Government meets the requirements of the EU Landfill Directive.

2.12 In 2005/6 Oxfordshire sent 142,500 tonnes of biodegradable waste to landfill. In line with EU and Central Government targets Oxfordshire must reduce the amount of biodegradable wastes landfilled to:

- 121,700 tonnes by 2009-10;
- 81,000 tonnes by 2012-13;
- 56,700 tonnes by 2019-20.

2.13 The Joint Municipal Waste Management Strategy recognises that a failure to meet these targets will result in a fine of at least £150 per tonne of landfilled biodegradable waste. It comments that, "**The only way to avoid these fines is to buy allowances from other Local Authorities. We expect the price of this to be close to the £150 per tonne fine we would have to pay,**" (Paragraph 4, Page 9).

2.14 The Joint Municipal Waste Management Strategy further comments that if the 142,500 tonne figure is used, Oxfordshire would miss its landfill target by around 20,000 tonnes, and would incur a fine of £3 million, (equating to £13 a year on the council tax of a band D house).

2.15 To do nothing would result in even higher fines as, nationally the amount of waste generated increases every year. The current level of performance would lead to incremental fines of:

£3.1 million in 2009-10;

£9.2 million by 2012-13;

£12.8 million by 2019-20.

2.16 Within Cherwell District Council a total of about 58,500 tonnes of household waste was collected in 2005/06. The Joint Municipal Waste Management Strategy estimates that in the same period 13,000 tonnes of waste was recycled with 12,500 tonnes being composted. This gives Cherwell an overall Best Value Performance Indicator (BVPI) of 44 %. Which is well above the 30% target required for recycling and composting. The equivalent figure for Oxfordshire as a total was 33.36%.

3. TYPE OF WASTE

3.1 Anticipated waste streams during the construction and occupation are outlined below. The type and quantities will be considered more closely within the DWMS.

Construction

3.2 Activities associated with construction and development of the various components of the Heyford Park development have the potential to result in the generation of significant quantities of waste.

3.3 The average amount of waste produced in construction of residential developments has been estimated at 19.2 m^3 waste per 100 m^2 floor area[1]. This is estimated to comprise of the sources described below:

Composition of Waste from Residential Development

Waste Group	Waste Produced per 100 m^2 floor area	
	Volume (m^3)	Weight (Tonnes)
Timber	1.3	0.39
Concrete	2.5	2.78
Inert	1.1	1.43
Ceramic	2.8	2.18
Insulation	1.0	016
Plastic	0.6	0.13
Packaging	2.9	1.59
Metal	1.3	1.04
Plaster and Cement	3.2	1.28
Miscellaneous	2.5	1.00
Total	**19.2**	**12.00**

(Source: BRE, 2006)

3.4 Based on an average[2] semi-detached residential property with a floorspace of 80m^2, the floorspace for the proposed development of 1,075 dwellings would be in the order of 86,000m^2. Approximately 70 existing dwellings are to be retained and refurbished, however due to uncertainty around the extent of refurbishment and the likely waste generated as a result, for the purposes of this calculation a worst case has been assumed that all 1,075 residential dwellings are new build.

[1] *Developing a Strategic Approach to Construction Waste: 20 Year Strategy Draft for Comment*, Building Research Establishment, Watford, 2006

[2] *Developing a Strategic Approach to Construction Waste: 20 Year Strategy Draft for Comment*, Building Research Establishment, Watford, 2006

3.5 It can be estimated that, in the absence of a specific strategy to minimise waste generation during construction, approximately 16,500m^3 (10,320 tonnes) of waste could arise from the construction of the residential properties.

3.6 The Building Research Establishment (BRE) has calculated the average amount of waste produced in construction of other development types[3] across the UK. The results are shown in the table below.

Composition of Waste from Development

	Health Care (G, M, S, P, F)	**Residential** (G, M, S, P, F)	**Office** (G, M, S, P, F)	**Education** (G, M, S, P, F)	**Industrial** (G, M, S, P, F)
m^3 / 100m^2 of floor area	11.7	19.2	14.1	22.2	30.2

(Source: Adapted from BRE, 2006, G = groundworks, M = mainframe, S = Services, P = partitions, F = fitout)

3.7 Based on the figures outlined in the table above, and assuming no waste minimisation activities are undertaken, the proposed masterplan development is likely to result in generation of approximately 25,200 m^3 of waste as shown below.

[3] BRE (2006), SMARTWaste Benchmarking. Available at: http://www.smartwaste.co.uk/benchmarking.jsp

Waste Arising from Development

Use Type	Floorspace (m^2)	Development Type (as shown in Table 5)	Approximate Waste Arising (m^3)[4]
Residential	Approx. 86,000	Residential	16,500
Office (class B1)	15,650	Office	2,200
Office (class B2)	18,000	Industrial	5,450
Storage (class B8)	86,100	Refurbishment	Not calculated
Heritage Centre	4,200	Refurbishment	Not calculated
Conference Centre	4,150	Education	900
Retail	750	None specified (office)[5]	100
Church	700	Refurbishment	Not calculated
Community Centre	600	Refurbishment	Not calculated
Bar/restaurant	350	Refurbishment	Not calculated
Nursery	200	Education	50
Primary School	To be confirmed		To be confirmed
TOTAL	**130,679**		**25,200**

3.8 Due to data limitations and the ongoing development of the designs, it is not possible to identify at this stage what proportion of each use type will be refurbishment (where refurbishment has been identified as an option). As a result, where a mix of new build and refurbishment is proposed, figures in the above assume a worst case scenario of 100% new build. Furthermore, where the development has been identified as predominately refurbishment, no waste arising has been calculated. The quantity of waste likely to be generated is largely dependant on the scale and scope of the refurbishment and it is not possible to meaningfully calculate at this master-planning stage of design development.

[4] Excluding waste generated through excavation and refurbishment.
[5] In the absence of industry benchmarking figures for retail establishments, an assumption has been made to use the figure for waste arising from office developments.

Occupation - Household waste

3.9 The proposed development envisages about 1075 new dwellings and it is estimated that this would increase the average tonnage of Type C (Primarily household including all putrescible material) waste sent to landfill by 880 tonnes. However, this represents less than 0.43% of the annual average tonnage of Type C waste in Oxfordshire. See 'Waste Arising from Development' Table above for approximate volume of arising.

Occupation - Trade waste

3.10 This will be dependant on the proposed use (use class) and size of operation, types and quantities of waste will be indicated in the DWMS. It is anticipated that much of this waste will be also be Type C waste. See 'Waste Arising from Development' Table above for approximate volume of arising.

4. WASTE MANAGEMENT STRATEGY

Construction

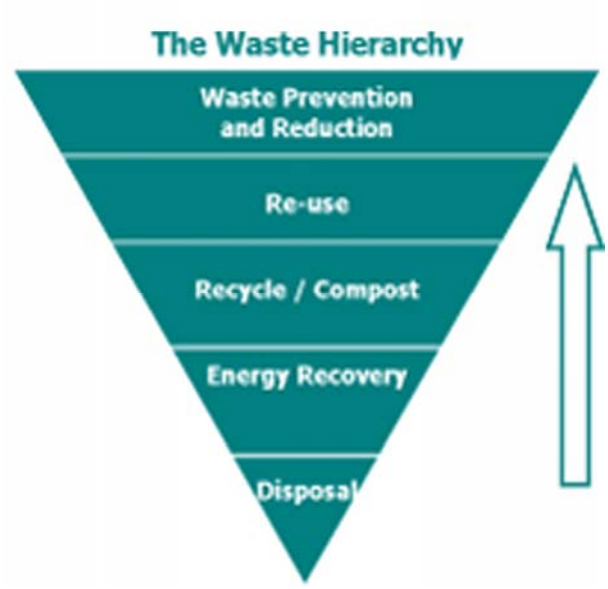
4.1 Waste materials can be generated by the engineering/landscaping of the site and care will be taken during the design stage of the development to ensure that all such material arising can be re-used elsewhere on site wherever possible and practical. In addition the generation of construction-related waste can be significantly reduced through the use of pre-fabricated elements which can be transported to site. Construction operations will also generate waste materials as a result of general handling losses and surpluses, these wastes can be mitigated through good site practices.

4.2 Construction activities on the site will be carefully managed to minimise waste production. Opportunities to avoid creating unnecessary waste include:

- Proper handling and storage of materials to avoid damage;
- Engineers to carry out precise take off;
- Efficient purchasing arrangements to avoid over ordering;
- Segregation of construction waste to maximise potential for reuse/recycling;
- Use of suppliers who collect and reuse/recycle packaging materials;
- The off-site separation and recycling of materials; and
- Training of contractors in waste minimisation and materials reuse.

4.3 Suitable waste disposal facilities will be identified and agreed with the Local Planning Authority, Cherwell District Council with advice from the Waste Planning Authority (WPA) Oxfordshire County Council. Such facilities should reuse, recycle and recover as much waste as possible generated from the construction process, they should also be as close to the site as possible, in accordance with the proximity principle[6] and waste hierarchy - see diagram below.

Waste Hierarchy:



Most acceptable

Least acceptable

(Diagram adapted from Paragraph 1.5, Gloucestershire County Council 'Waste Minimisation in Development Projects', Supplementary Planning Guidance, adopted September 2006)

4.4 Cumulatively, these strategies contribute to the overall reduction in waste materials that are generated in the construction process, in line with the requirements of the Emerging Oxfordshire Minerals and Waste Development Framework and Joint Municipal Management Strategy. This in turn minimises the impact that construction phase waste has on the environment.

[6] Whereby waste is dealt with as close to where it arises, as possible.

Design Considerations

4.5 The design of the development will seek to:

- maximise the use of reclaimed materials where possible in the construction;
- maximise recycling and reclamation opportunities at the end of the buildings life; and
- use prefabricated units and standardised components in standard product sizes (e.g. plasterboard panels, windows, doors), to reduce the generation of waste, by virtue of their production in factory-controlled environment. If standard product sizes are made use of, this minimises the production of off-cut wastage at the construction phase.

Occupation – Layout

Household Waste

4.6 The previously discussed Central Government targets proposed for the reduction in municipal waste going to landfill are an important issue in the design of separation, storage and collection facilities for recyclable and compostable materials. Oxfordshire County Council and Cherwell District Council identify through the Joint Municipal Waste Management Strategy and emerging Minerals and Waste Development Framework that any new development must detail, as part of the proposals, a sustainable strategy for dealing with the waste that will be generated by the development, adhering to BPEO analysis.

4.7 Accordingly, waste management and householder recycling initiatives will be incorporated at the detailed design stage, in coordination with the Emerging 'Minerals Waste Development Framework', Oxfordshire Joint Municipal Waste Management Strategy and the '*Joint Household Waste Management Strategy*', and the operational requirements and standards of the waste management company who will perform the collection of waste from the occupied dwellings.

4.8 The production of waste materials can be mitigated by encouraging waste minimisation, household and commercial recycling through the following examples schemes:

- Home composting;
- Kerbside collections - “Green boxes” (paper, bottles, cans, green waste); and
- “Bring” facilities (recycling banks) for glass, paper, cans and textiles etc.

4.9 Bearing in mind future residents will have to “opt in” to schemes such as those outlined above it is important that this is made as easy as possible. The developer will liaise with the Waste Disposal Authority and Waste Collection Authority/Provider in connection with each phase of the development to ensure that the design and layout of the development complements any recycling schemes that are in place at that time or proposed in the future.

4.10 It is envisaged that each new household and each new communal dwelling unit will be issued with waste and recycling receptacles for “on-site” storage and a comprehensive pack of information regarding details of “bring” locations where plastics and textiles can be recycled together with current Waste Collection Authority (District Council) collection initiatives. Cherwell District Council operates a fortnightly ‘wheelie bin’ kerbside collection service for general ‘residual waste’ direct from all households. In addition they have a separate ‘Blue box’ collection for green ‘composting’ waste as well as an further wheelie bin for ‘dry’ recyclables.

4.11 Secondly, sufficient provision will be made within each dwelling unit/curtilage for the convenient storage of the above receptacles, for example boxes with lids/wheeled bins for recyclable materials. It is important to “future-proof” any scheme, taking into account the probable increase in future recycling as more waste is recycled to meet the targets set out above. In the case of flats/apartments, secure communal provision will be made and this will be comprehensively considered at the design phase.

Trade Waste

4.12 It is important to assist future business occupiers to reduce and minimise any waste they produce and recycle wherever practical.

4.13 Accordingly, appropriate provision will therefore be made for the storage of waste materials and in a similar manner to the residential waste information pack, Information will be provided to occupiers regarding recycling initiatives and facilities.

4.14 The eventual layout of employment areas should allow for:-

- recyclate deposit points within premises for workers;
- the provision of receptacles for bulking up, sorting and segregating different waste and recyclates (e.g. paper, cans, wrapping, pallets) to be sited within the development;
- the provision of space to store organic waste, (if a contract for this specific waste is agreed).

5. PROPOSED CONDITIONS

5.1 The following suggested Condition is proposed to be attached to the grant of outline permission.

Waste Management Strategy

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.