Northstowe
Phase 1 Planning Application

Waste Management Strategy
(incorporating Waste Design Guide Toolkit
and Site Waste Management Plan)

February 2012

10

Northstowe

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ABBREVIATIONS

BRE	Building Research Establishment
BS	British Standard
CCC	Cambridgeshire County Council
CMS	Construction Management Strategy
COSHH	Control of Substances Hazardous to Health
DCLG	Department for Communities and Local Government
Defra	Department for Environment, Food and Rural Affairs
DFD	Development Framework Document
DPD	Development Plan Document
EERA	East of England Regional Assembly
EPI	Environmental Performance Indicator
HRC	Household Recycling Centre
LDF	Local Development Framework
NAAP	Northstowe Area Action Plan
PPS	Planning Policy Statement
RECAP	Recycling in Cambridgeshire and Peterborough
SCDC	South Cambridgeshire District Council
SPD	Supplementary Planning Document
SWMP	Site Waste Management Plan
WEEE	Waste Electrical and Electronic Equipment
WRAP	Waste and Resources Action Programme

1 INTRODUCTION

1.1 BACKGROUND

1.1.1 WSP Environmental Ltd. has been commissioned by Gallagher to develop a Waste Management Strategy for the development of Phase 1 of Northstowe (the 'proposed development').

1.1.2 This strategy considers the potential impacts that may arise from waste generated during site preparation, construction and operational phases with the overall aim of developing a strategy for legislative compliance and good practice in the separation, storage, collection, treatment and/or disposal of waste arisings.

1.1.3 The report also outlines the opportunities for implementing waste mitigation measures for the potential impacts arising during each phase of the development in order to ensure that such measures are consistent with both Government and local authority waste policies and targets.

1.2 APPLICATION SITE DESCRIPTION AND THE PROPOSED DEVELOPMENT

Application Site and its setting

1.2.1 The Application Site is located within South Cambridgeshire District, approximately 10km to the north west of Cambridge, to the east of Longstanton and to the north of Oakington and is bounded by the Cambridgeshire Guided Bus Route to the east.

The proposed development

1.2.2 Outline planning application for phase 1 of Northstowe comprising up to 1,500 dwellings; a primary school; a mixed-use local centre (including a community building, and provision for non-residential institutions, financial and professional services, shops, cafés and restaurants, drinking establishments, and hot food takeaways); leisure, community, residential institutions, cultural, health, and employment provision (business, general industry and storage & distribution) including a household recycling centre; formal and informal recreational space and landscaped areas; and infrastructure works including site re-profiling and associated drainage works, foul and surface water pumping stations, two flood attenuation ponds on land east of Hattons Road; and associated works including the demolition of existing buildings and structures.

Phase 1 and its context to Northstowe

1.2.3 A Development Framework Document (DFD), including a Framework Master Plan has been prepared which refreshes the master plan for Northstowe and provides place making principles and guidance for individual phases of development. The DFD defines the rationale and structure for Northstowe's planning and delivery as a comprehensive development enabling Phase 1 to come forward as part of an integrated whole.

1.2.4 The spatial planning and urban design principles of the framework master plan are founded on the vision, development principles and policies of the Northstowe Area Action Plan (NAAP), which was adopted by South Cambridgeshire District Council in July 2007. Given the passage of time since the NAAP was adopted the DFD has taken into account more recent and emerging changes in national and local planning policy and of the impact of current and likely future economic events to ensure that the master plan is future proofed and remains relevant.

1.2.5 As a consequence, the master plan and development principles for Northstowe have been strengthened and brought up-to-date to ensure a viable scheme for creating a sustainable community. The new town is to be built to high standards of design and layout within a framework of green infrastructure comprising formal and informal open space and wildlife habitat corridors.

1.3 STRATEGY AIMS

1.3.1 The aim of this strategy is to consider the key issues associated with sustainable management of waste at the proposed development (throughout the stages of site clearance, construction and operation) with particular reference to:

- Identifying opportunities to seek to maximise the reduction, reuse, recycling and recovery of waste and thereby minimising disposal, in line with Government policy;
- Identifying opportunities for waste segregation and the transfer of waste to appropriate processing facilities; and
- Producing a flexible waste strategy that can adapt to future recycling markets, new directives and legislation.

1.4 METHODOLOGY

1.4.1 The development of this strategy has involved a number of tasks including:

- A desk-top review to collate information relating to waste generation, collection and disposal options;
- Review of South Cambridgeshire District Council (SCDC) waste management requirements and identification of any forthcoming policy changes for developments in the area;
- A review of available and accessible planning and policy guidance information; and
- Identification of opportunities for waste minimisation, reuse and recycling during the construction phase and subsequent operation of the proposed development.

2 WASTE LEGISLATION, POLICY & GUIDANCE

2.1 INTRODUCTION

2.1.1 This chapter contains details of the national legislation and regional and local waste policy and guidance that have relevance to the proposed development.

2.2 NATIONAL LEGISLATION

2.2.1 A list of items of national waste legislation is outlined below in reverse chronological order:

- ***The Waste (England and Wales) Regulations 2011*** - will require waste collection authorities to enable the separate collection of waste paper, metal, plastic and glass from 1 January 2015.
- ***Environmental Permitting (England and Wales) Regulations 2010*** - Provides a consolidated system for environmental permits and exemptions. It also sets out the powers, functions and duties of the regulators.
- ***Hazardous Waste (England and Wales) (Amendment) Regulations 2009*** - Details requirements for controlling and tracking the movement of hazardous waste and bans mixing different types of hazardous waste.
- ***Revised Waste Framework Directive (2008)*** - Clarifies the definition of 'waste' and of other concepts like 'recycling' and 'recovery'. It has applied a new waste hierarchy, expanded the 'polluter pays' principle by emphasising producer responsibility, applies more stringent waste reduction and waste management targets for Member States and requires enhanced content in waste management plans.
- ***Site Waste Management Plans Regulations 2008*** - Aims to reduce the amount of waste produced on construction sites and to prevent fly-tipping. There is also an aim to increase resource efficiency in construction by encouraging greater reuse and recycling of waste and designing to minimise the production of waste. (Further details are provided in section 3.3 of this strategy).
- ***Landfill (England and Wales) Regulations 2002*** - Ensures that waste is treated before it is sent for disposal. The Regulations define treatment as physical, thermal, chemical or biological processes (including sorting) that change the characteristics of waste in order to reduce its volume or hazardous nature to facilitate its handling or enhance recovery.
- ***Environmental Protection (Duty of Care) Regulations (1991) (as amended)*** - Requires the producer of waste to retain responsibility for that waste from production through to final legal disposal. As a result, the waste producer must take responsibility for their own waste and ensure that they are satisfied with the measures used to dispose of that waste. All links in the chain hold responsibility for ensuring that the waste is dealt with in a responsible and legal manner.

2.3 NATIONAL WASTE POLICY & GUIDANCE

Government Review of Waste Policy in England (2011)[1]

2.3.1 Under the coalition government, the Department for Environment, Food and Rural Affairs (Defra) reviewed existing waste policy with the view for England to become a 'zero waste' society. The following text from the policy review is of relevance to the proposed development:

> '*To improve the service to householders and businesses while delivering environmental benefits and supporting growth Defra will:*
>
> – *Support initiatives which reward and recognise people who do the right thing to reduce, reuse and recycle their waste;*

[1] Defra (2011) *Government Review of Waste Policy in England*
http://www.defra.gov.uk/publications/files/pb13540-waste-policy-review110614.pdf

- *Work with councils to increase the frequency and quality of rubbish collections and make it easier to recycle;*
- *Continue to increase the percentage of waste collected from…households and businesses which is recycled, at the very least meeting the…directive target to recycle 50% of waste from households by 2020*'.

Draft National Planning Policy Framework (2011)[2]

2.3.2 The draft National Planning Policy Framework sets out the government's economic, environmental and social planning policies for England and provides a framework within which local people and councils can produce local and neighbourhood plans.

2.3.3 Defra has stated that they will be taking forward work to produce a National Waste Management Plan for England which will replace Waste Strategy for England 2007 as the national waste management plan for these purposes. The plan is expected to be in place by spring 2012. Referring to this, the draft National Planning Policy Framework document states:

> '*This framework does not contain specific waste policies, since national waste planning policy will be published alongside the National Waste Management Plan for England. However, local authorities preparing waste plans should have regard to policies in this Framework*'.

Planning Policy Statement 10: Planning for Sustainable Waste Management (2011)[3]

2.3.4 The policies in Planning Policy Statement 10 (PPS 10) are taken into account by local planning authorities in the preparation of local development documents. They may also be material to decisions on individual planning applications.

> '*Regional planning bodies and all planning authorities should, to the extent appropriate to their responsibilities, prepare and deliver planning strategies that:*
>
> - *Help deliver sustainable development through driving waste management up the waste hierarchy, addressing waste as a resource and looking to disposal as the last option, but one which must be adequately catered for;*
> - *Provide a framework in which communities take more responsibility for their own waste, and enable sufficient and timely provision of waste management facilities to meet the needs of their communities;*
> - *Help implement the national waste strategy, and supporting targets, are consistent with obligations required under European legislation and support and complement other guidance and legal controls such as those set out in the [Environmental Permitting regulations];*
> - *Help secure the recovery or disposal of waste without endangering human health and without harming the environment, and enable waste to be disposed of in one of the nearest appropriate installations;*
> - *Reflect the concerns and interests of communities, the needs of waste collection authorities, waste disposal authorities and business, and encourage competitiveness; and*
> - *Ensure the design and layout of new development supports sustainable waste management*'.

[2] Department for Communities and Local Government (DCLG) (2011) *Draft National Planning Policy Framework* http://www.communities.gov.uk/documents/planningandbuilding/pdf/1951811.pdf

[3] DCLG (2011) *Planning Policy Statement 10: Planning for Sustainable Waste Management* http://www.communities.gov.uk/documents/planningandbuilding/pdf/1876202.pdf

Code for Sustainable Homes (2010)[4]

2.3.5 The Code for Sustainable Homes ('the Code') is an environmental assessment method for rating and certifying the performance of new homes. It is a national standard for use in the design and construction of new homes with a view to encouraging continuous improvement in sustainable home building.

2.3.6 With regard to waste management, the aims of the requirements in the Code are to:

- Ensure developers provide adequate internal and external storage space for non-recyclable waste and recyclable household waste;
- Promote resource efficiency via the effective and appropriate management of construction site waste; and
- Promote the provision of compost facilities to reduce the amount of household waste send to landfill.

2.3.7 The following extracts from the Code outline the criteria and credits for waste management:

'***Was 1 Storage of Non-recyclable Waste and Recyclable Household Waste***

Storage of household waste (no credits available)

An adequate external space should be allocated for waste storage and sized to accommodate containers according to the largest of the following two volumes:

The minimum volume recommended by British Standard 5906 (British Standards Institution, 2005) based on a maximum collection frequency of once per week. This volume is 100 litres for a single bedroom dwelling, with a further 70 litres for each additional bedroom.

The total volume of the external waste containers provided by the Local Authority.

Storage space must provide inclusive access and usability (Checklist IDP). Containers must not be stacked.

Storage of recyclable household waste (two credits available)

Dedicated internal storage for recyclable household waste can be credited where there is no (or insufficient) dedicated external storage capacity for recyclable material, no Local Authority collection scheme and where the following criteria are met:

At least three internal storage bins:

- *all located in an adequate internal space*
- *with a minimum total capacity of 60 litres.*

Storage of recyclable household waste (four credits available)

A combination of internal storage capacity provided in an adequate internal space, with either:

- *a Local Authority collection scheme, or*
- *no Local Authority collection scheme but adequate external storage capacity.*

Local Authority collection scheme

In addition to a Local Authority collection scheme (with a collection frequency of at least fortnightly), at least one of the following requirements must be met:

- *Recyclable household waste is sorted after collection and a single bin of at least 30 litres is provided in an adequate internal space.*
- *Materials are sorted before collection and at least three separate bins are provided with a total capacity of 30 litres. Each bin must have a capacity of at least 7 litres and be located in an adequate internal space.*

[4] DCLG (2010) *Code for Sustainable Homes Technical Guide November 2010*
http://www.planningportal.gov.uk/uploads/code_for_sustainable_homes_techguide.pdf

- *An automated waste collection system which collects at least three different types of recyclable waste.*

No Local Authority collection scheme but adequate external storage capacity

For houses and flats there must be at least three identifiably different internal storage bins for recyclable waste located in an adequate internal space:

- *with a minimum total capacity of 30 litres*
- *with a minimum individual capacity of at least 7 litres.*

AND

For houses, an adequate external space must be provided for storing at least three external bins for recyclable waste:

- *with a minimum total capacity of 180 litres*
- *with a minimum individual capacity of 40 litres.*

For flats, a private recycling scheme operator must be appointed to maintain bins and collect recyclable waste regularly. Recycling containers must:

- *be located in an adequate external space*
- *be sized according to the frequency of collection, based on guidance from the recycling scheme operator*
- *store at least three types of recyclable waste in identifiably different bins.*

Was 2 Construction Site Waste Management

Minimising Construction Waste (one credit available)

Where there is a compliant Site Waste Management Plan (SWMP) that contains:

- *Target benchmarks for resource efficiency, i.e. m^3 of waste per 100 m^2 or tonnes of waste per 100 m^2 set in accordance with best practice*
- *Procedures and commitments to minimize non-hazardous construction waste at design stage. Specify waste minimisation actions relating to at least 3 waste groups and support them by appropriate monitoring of waste.*
- *Procedures for minimising hazardous waste.*
- *Monitoring, measuring and reporting of hazardous and non-hazardous site waste production according to the defined waste groups (according to the waste streams generated by the scope of the works).*

Diverting Waste from Landfill (three credits available)

Where there is a compliant Site Waste Management Plan (SWMP) including procedures and commitments to sort and divert waste from landfill, through either;

- *Reuse on site (in situ or for new applications)*
- *Reuse on other sites*
- *Salvage/reclaim for reuse*
- *Return to the supplier via a 'take-back' scheme*
- *Recovery and recycling using an approved waste management contractor*
- *Compost*

according to the defined waste groups (in line with the waste streams generated by the scope of the works).

AND

One of the following has been achieved:

- *Where at least 50% by weight or by volume of non-hazardous construction waste generated by the project has been diverted from landfill.*

OR

- *Where at least 85% by weight or by volume of non-hazardous construction waste generated by the project has been diverted from landfill.*

Was 3 Composting (one credit available)

- *Individual home composting facilities.*

OR

- *A local communal or community composting service, which the Local Authority runs or where there is a management plan in place.*

OR

- *A Local Authority green/kitchen waste collection system (this can include an automated waste collection system).*

All facilities must also:

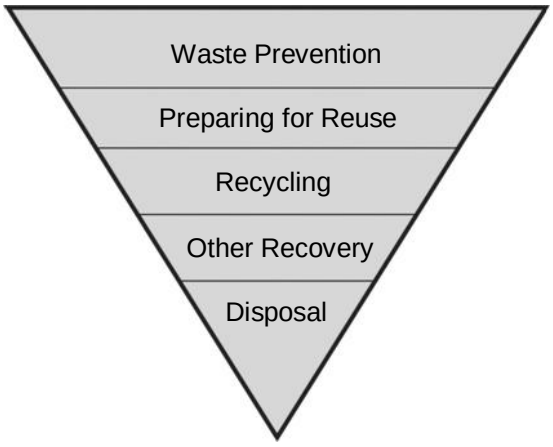
- *be in a dedicated position*
- *provide inclusive access and usability (Checklist IDP)*
- *have a supporting information leaflet provided to each dwelling*'.

Waste Hierarchy

2.3.8 The waste hierarchy requires avoidance of waste in the first instance followed by reducing the volume that requires disposal after it has been generated.

2.3.9 The waste hierarchy gives an order of preference for waste management options to minimise the volume for disposal, as shown in Figure 2.1.

Figure 2.1: The Waste Hierarchy



Source: Revised Waste Framework Directive

2.3.10 The main principles of the waste hierarchy are:

- Waste should be prevented or reduced at source as far as possible;
- Where waste cannot be prevented, waste materials or products should be reused directly or refurbished and then reused;

- Waste materials should be recycled or reprocessed into a form that allows them to be reclaimed as a secondary raw material;
- Where useful secondary materials cannot be reclaimed, the energy content of the waste should be recovered and used as a substitute for non-renewable energy resources; and
- Only if waste cannot be prevented, reclaimed or recovered, should it be disposed of into the environment and this should only be undertaken in a controlled manner.

Strategy for Sustainable Construction (2008)[5]

2.3.11 The strategy sets out challenging but achievable targets to be delivered by the construction sector, focussing on productivity, efficiency and sustainability.

2.3.12 For waste management, these include commitments to:

- Achieve a 50% reduction in the amount of construction, demolition and excavation waste sent to landfill by 2012; and
- Ensure that 25% of materials used in construction projects are responsibly sourced by 2012.

Waste Strategy for England 2007[6]

2.3.13 Waste Strategy for England presented the previous Government's vision for managing waste and resources in a more sustainable manner.

2.3.14 National targets have been set for:

- recycling and composting of household waste – at least 40% by 2010, 45% by 2015 and 50% by 2020; and
- recovery[7] of municipal waste – 53% by 2010, 67% by 2015 and 75% by 2020.

2.3.15 Under the coalition Government, the Department for Environment, Food and Rural Affairs (Defra) has revealed that a new version of the waste strategy is set to be published and is expected to either replace or revise the existing strategy.

2.3.16 The coalition Government plans to review existing waste policy in order to become a 'zero waste' society and Defra's *Business Plan 2011-2015*[8] has the following aims:

- Agree goals for 2014/2020 and set the path towards a 'zero waste' economy through review of waste policies;
- Explore voluntary responsibility deal on waste among businesses; and
- Set out steps to promote increased energy from waste through anaerobic digestion.

2.3.17 The coalition Government also intends to set a new national target for the reduction of commercial and industrial waste going to landfill, following the results of a national waste audit of businesses that were published in December 2010.

British Standard 5906:2005 Waste management in buildings - Code of practice[9]

2.3.18 This British Standard is a code of practice for methods of storage, collection, segregation for recycling and recovery and on-site treatment of waste from residential and non-residential buildings and healthcare establishments. It is applicable to new buildings, refurbishments and conversions of residential and non-residential buildings, including but not limited to retail and offices.

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[5] HM Government in association with Strategic Forum for Construction (2008) *Strategy for Sustainable Construction* http://www.bis.gov.uk/files/file46535.pdf

[6] Defra (2007) *Waste Strategy for England 2007* http://www.defra.gov.uk/environment/waste/strategy/strategy07/documents/waste07-strategy.pdf

[7] Any operation the principal result of which is waste serving a useful purpose by replacing other materials which would otherwise have been used to fulfil a particular function, or waste being prepared to fulfil that function (Source: Directive 2008/98/EC)

[8] Defra (2011) *Business Plan 2011-2015* http://www.number10.gov.uk/wp-content/uploads/DEFRA-Business-Plan1.pdf

[9] British Standards Institution (2005) *BS 5906:2005 Waste management in buildings - Code of Practice*

2.4 WASTE POLICY & GUIDANCE FOR THE EAST OF ENGLAND AND CAMBRIDGESHIRE

Regional Spatial Strategies

2.4.1 The Localism Bill was enacted in November 2011, thereafter becoming the Localism Act. Different parts of the Act will however come into effect at different times over the coming months. The Act enables Regional Spatial Strategies, including the East of England Plan to be abolished but this will be undertaken by statutory order by the Government in due course (it is currently understood that this will be around March/April 2012), subject to consultation. Whilst the East of England Plan remains part of the development plan until it is formally abolished, the government has advised that the proposed abolition of Regional Strategies should be regarded as a material consideration by local planning authorities when deciding planning applications. It should therefore be afforded limited weight in the determination of this planning application. Reference is included to relevant policies within the Core Strategy, which takes account of regional policy.

2.4.2 With regard to waste management, this announcement is expected to affect the following three policies:

1) *East of England Plan (2008)*[10]

2.4.3 The East of England Plan has a key role in contributing to the sustainable development of the region. It sets out policies which address the needs of the region and key sub-regions. These policies provide a development framework for the next 15 to 20 years that will influence the quality of life, the character of places and how they function, and informs other strategies and plans. A major feature of the Plan is that it identifies the significant investment that will be needed in social, environmental, economic and transport facilities ('infrastructure') if it is to achieve its desired results.

2) *Our Environment, Our Future: The Regional Environment Strategy for the East of England (2003)*[11]

2.4.4 This document sets out the first Environment Strategy that covers the whole of the East of England. It is one of a series of strategies that form part of an overall Integrated Strategy for the region. As such, it has an influential role in deciding how the East of England will move towards a more sustainable future.

2.4.5 It comprises a summary of the current state of the environment of the East of England, a description of the main environmental challenges facing the region, and a series of aims for responding to these challenges and a number of key actions that will need to be undertaken in order to meet the aims of the Strategy, and indicators for measuring success.

3) *East of England Regional Waste Management Strategy*[12]

2.4.6 The East of England Regional Waste Management Strategy sets out a series of objectives for the region to achieve improved self-sufficiency, backed up by some tough recovery targets, which present a major challenge for local authorities and for regional bodies. The targets set by the Regional Waste Management Strategy are:

- Municipal Waste – recovery of 70% at 2015.
- Commercial & Industrial Waste – recovery of 75% at 2015.

Cambridgeshire and Peterborough Minerals and Waste Development Plan: Core Strategy (adopted July 2011)[13]

2.4.7 The Core Strategy sets out the strategic vision and objectives and includes a suite of development control policies to guide waste development in the county.

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[10] East of England Regional Assembly (EERA) website: *East of England Plan*
http://www.eera.gov.uk/What-we-do/developing-regional-strategies/east-of-england-plan/east-of-england-plan-2001-2021/

[11] EERA (2003) *Our Environment, Our Future: The Regional Environment Strategy for the East of England*
http://www.eera.gov.uk/Documents/About%20EERA/Policy/Environment/RENS.pdf

[12] EERA website: *East of England Regional Waste Management Strategy*
http://www.eera.gov.uk/What-we-do/developing-regional-strategies/east-of-england-plan/waste/development-of-current-waste-policy/

[13] CCC and Peterborough City Council (PCC) (2011) *Cambridgeshire and Peterborough Minerals and Waste Development Plan: Core Strategy*
http://www.cambridgeshire.gov.uk/NR/rdonlyres/76AE7877-5A20-44E9-97CF-34BCF0017FE2/0/CoreStrategyAdopted19July2011.pdf

2.4.8 With regard to the proposed development, the Strategy states that there are opportunities through design for waste facilities to achieve greater assimilation with surrounding uses; minimising the visual impact of development; and maximising sustainability through use of sustainable materials, drainage and energy efficiency. This will have relevance in the proposed inclusion of a Household Recycling Centre (HRC).

2.4.9 The following extracts are considered to be of relevance to the proposed development:

Policy CS24 Design of Sustainable Minerals and Waste Management Facilities

> '*All proposals for…waste management development will be required to achieve a high standard in their design and mitigation of environmental impacts including climate change*.
>
> *Waste management proposals must be consistent with the guidance provided in The Location and Design of Waste Management Facilities (Supplementary Planning Document)*'.

Policy CS28 Waste Minimisation, Reuse and Resource Recovery

> *'The Waste Planning Authorities will encourage waste minimisation, reuse and resource recovery by requiring:*
>
> - *a waste management audit and strategy to put in place practicable measures to maximise waste minimisation, reuse recovery and recycling of waste on all developments over the value of £300,000*
> - *submission of a completed RECAP Waste Management Design Guide Toolkit Assessment*
> - *new development to contribute to the provision of bring sites. Contributions will be consistent with the RECAP Waste Management Design Guide;*
> - *temporary waste recycling facilities in strategic development areas including…Northstowe. These should maximise the reuse, recycling and recovery of inert waste streams from construction and demolition operations, and be in place throughout the construction phases of these major development areas*'.

2.4.4 The RECAP Waste Management Design Guide Toolkit Assessment for the proposed development is contained in Appendix A.

Cambridgeshire and Peterborough Minerals and Waste Site Specific Proposals Development Plan Document (Adoption Version)[14]

2.4.10 The Minerals and Waste Site Specific Proposal Development Plan Document (DPD) identifies allocated sites and the geographical extent of supporting policy boundaries for various uses, including waste management.

2.4.11 The Site Specific Proposals DPD confirms that the Area of Search for the Household Recycling Centre (Site W1U) is within the employment area in the new town. As a result of a review of the Northstowe master plan undertaken jointly with the local authorities, the employment area in Phase 1 is now in a slightly different location. Nevertheless, the text in the DPD is correct and the Site Characteristics and Implementation Issues for the HRC are still relevant.

2.4.12 Extracts from the DPD which are considered to be of relevance to the proposed development have been included in Appendix C of this report.

RECAP Partnership: Waste Management Design Guide Draft Supplementary Planning Document (2011)[15]

2.4.13 The RECAP Waste Management Design Guide ('RECAP Guide') provides advice on the design and provision of waste management infrastructure as part of residential and commercial developments including the following:

[14] CCC and PCC (2011) *Cambridgeshire and Peterborough Minerals and Waste Site Specific Proposals Development Plan Document* http://www.cambridgeshire.gov.uk/environment/planning/mineralswasteframework/mineralswasteplan/pre-submission/documents/Site+Specific+Proposals+Plan.htm

[15] RECAP (2011) *RECAP Partnership: Waste Management Design Guide Draft Supplementary Planning Document* http://www.recap.co.uk/pdf/RECAP-Waste-Management-Design-Guide.pdf

- Internal/external storage capacity – the amount of space required within homes and for the storage of bins to serve residential and commercial developments.
- Location of waste storage – issues to be considered in relation to the location of bins.
- Waste Storage Infrastructure – a minimum specification for the storage of waste in residential and commercial developments.
- Highway Design – ensuring that waste collection vehicles can serve new developments effectively.
- Additional waste management measures – complementary measures which can be introduced to support the effective management of waste.
- Developer Contributions – how developers will contribute to the provision of waste infrastructure including the provision of waste storage containers, HRCs and Bring Sites.

2.4.14 Consultation on the RECAP Guide took place between February and March 2010. As a result of the representations received, further changes were made to the Design Guide. As such, the Design Guide and related publications were updated and there was a second round of consultation in September and October 2011. Cambridgeshire County Council (CCC) is due to formally adopt the updated guidance in February 2012.

2.4.1 The RECAP Guide also includes a Toolkit Assessment to be used by developers to demonstrate how they have addressed the waste management infrastructure requirements set out above as part of their proposals.

The Location and Design of Waste Management Facilities Supplementary Planning Document[16]

2.4.2 The Location and Design of Waste Management Facilities Supplementary Planning Document (SPD) was developed to guide the design and location of waste management facilities in Cambridgeshire and Peterborough to ensure high quality and to demonstrate how these facilities can be developed in both urban and rural settings.

2.4.3 The following extracts are considered to be of relevance to the proposed development:

*'**Household Recycling Facilities***

Facilities and Locational Criteria

5.14 Household Recycling Centres (HRC) to provide a centralised collection facility for householders. The purpose of these facilities is to provide a point to which householders can bring their waste, predominantly for recycling and reuse, including garden waste, rubble / hard-core, cardboard, glass, textiles, metal, batteries, waste engine oil, and bulky items. There is also an element of general waste, which can include mixed waste and 'black bag' material. These facilities vary from other waste management facilities in that they are provided for the use by the public. Household Recycling Centres can also include an educational function informing people about recycling generally and the role of Household Recycling Centres. If this function is to be provided, it needs to be considered as an integral part of the design and operation of such facilities.

5.15 A HRC must be accessible to members of the public. The public are responsible for transferring waste from their vehicles to the correct collection bay. When the containers within the bays are full, they will be sheeted prior to usually being removed from the site and replaced with an empty container. The demands on small scale sites can be significant, although the busy periods tend not to coincide with peak work rush hours, but are at weekends, evenings and public holidays. New facilities in appropriate locations are required in order to manage traffic effectively and maximise the space to increase recycling opportunities. Co-location with other waste management facilities maybe appropriate for new facilities minimising transport of the waste.

5.16 There is a need to separate the general public areas from the service vehicles collecting the full containers. Arrangements need to provide separate access to waste collection vehicles to enable the continuous movement of waste off the site. Modern facilities may be split level and are often contained

[16] CCC (2011) *The Location and Design of Waste Management Facilities Supplementary Planning Document* http://www.cambridgeshire.gov.uk/NR/rdonlyres/45DA6EFB-BA79-44B0-BB0E-8623BCCCB071/0/E157Web1.pdf

within buildings, which minimises potential litter, noise and other amenity issues. Facilities need to be close to where the waste is generated to maximise usage in order to combat fly tipping.

5.17 The handling capacity of a HRC will depend on the design and size of the site. Sites tend to be minimally 1.2 hectares and can handle between 10,000 tpa and 25,000 tpa.

5.18 A key planning constraint with respect to HRCs will be traffic and access. There tends to be peak periods of use at weekends and public holidays. Careful transport planning is required to minimise queuing. The design needs to emphasise that public traffic must be separated from the operational traffic. There also needs to be easy accessibility to the different waste stream deposit areas by the public, but minimal conflict with those driving through once they have deposited their waste.

5.19 Facilities are likely to generate high volumes of traffic at off peak times and should be located close to the main road or rail network. Access to good public transport and footpath network would also be beneficial for users and employees. Facilities have the potential to cause nuisance from litter and odour. Facilities should normally be enclosed within a building. An urban location would be appropriate, close to the waste source. Facilities could be located within major development areas providing an adequate buffer is provided.

Joint Municipal Waste Management Strategy for Cambridgeshire and Peterborough 2008-2022[17]

2.4.4 The Joint Municipal Waste Management Strategy sets out the key aims and objectives of the Cambridgeshire and Peterborough Waste Partnership. The strategy covers the period 2008-2022 and provides an update of the first partnership strategy issued in 2002.

2.4.5 The following objectives set out in the strategy will have particular impact for the management of waste at the proposed development:

- *'Objective 4: We will aim to drive the management of waste up the waste hierarchy of reduction, reuse, recycling and composting, and energy recovery. Where waste is produced it should be viewed as a resource to be put to good use – disposal (i.e. landfill) should be the last option for dealing with it.*
- *Objective 12: We will work together to reduce the amount of waste produced per person within the Joint Strategy Area by actively promoting waste prevention, reduction and reuse activities.*
- *Objective 13: We will work together to reduce the amount of waste sent to landfill by maximising recycling and composting to achieve the national waste strategy targets as a minimum and work towards achieving the aspirational targets of recycling/composting the following percentages of household waste:*
  - *50 to 55% of household waste by 2015;*
  - *55 to 60% of household waste by 2020.*
- *Objective 14: We will seek to work locally to promote, develop and stimulate sustainable recycling and composting initiatives consistent with green procurement codes.*
- *Objective 15: We will aim to ensure that residual waste is treated as a resource recovering both energy and value where possible at every stage.*
- *Objective 17: We will facilitate, promote and encourage the reduction, reuse and recycling of non-municipal waste through partnership arrangements to reduce the amount of this waste sent to landfill e.g. commercial, construction and demolition waste'.*

[17] RECAP website: *Joint Municipal Waste Management Strategy for Cambridgeshire and Peterborough 2008-2022* http://www.recap.co.uk/pdf/headline-strategy.pdf

Cambridgeshire Design Guide for Streets & Public Realm (2007)[18]

2.4.6 The Design Guide complements national design guidance, such as the Government's *Manual for Streets* to promote the highest possible standards in all new developments, large and small.

2.4.7 The purpose of the Design Guide for Streets & Public Realm is to set out the key principles and aspirations that should underpin the detailed discussions about and requirements for the design of streets and public spaces that take place on a site-by-site basis. The aim is to integrate street design with the RECAP Guide so that there are adequate street widths and access arrangements to accommodate refuse / recycling vehicles so that suitably located waste / recycling collection points can be reached and serviced.

2.5 LOCAL WASTE POLICY

Development Control Policies Development Plan Document (2007)[19]

2.5.1 The Development Control Policies document guides decisions on planning applications within South Cambridgeshire.

2.5.2 The following extract is considered to be of relevance to the proposed development:

POLICY DP/6 Construction Methods

> '*Where practicable, development which by its nature or extent is likely to have some adverse impact upon the local environment and amenity during construction and / or is likely to generate construction waste should:*
>
> *a. Recycle construction waste;*
>
> *b. Prepare a 'Resource Reuse and Recycling Scheme' to cover all waste arising during the construction;*
>
> *c. Be bound by a 'Considerate Contractors Scheme' or similar arrangement, including the restriction of noisy operations to normal working hours;*
>
> *d. Where appropriate accommodate construction spoil within the development, taking account of the landscape character and avoiding creation of features alien to the topography;*
>
> *e. Maximise the reuse and recycling of any suitable raw materials currently available on sites during construction, such as redundant buildings or infrastructure*'.

District Design Guide: High Quality and Sustainable Development in South Cambridgeshire Supplementary Planning Document (2010)[20]

2.5.3 The District Design Guide SPD forms part of the South Cambridgeshire Local Development Framework (LDF). The purpose of the District Design Guide is to ensure delivery of sensitively and appropriately designed, sustainable developments. The document sets out important design principles based on recognised good practice and explains key requirements of SCDC that will be taken into account when considering planning proposals.

2.5.4 The following extracts from the District Design Guide are considered to be of relevance to the proposed development:

> *Chapter 8 – Environmental Sustainability*
>
> *Recycle Construction Waste*
>
> *8.90 Principles: Applicants are expected to ensure that their proposals incorporate the principles of the waste management hierarchy. The least preferred option is disposal to landfill and the most preferred*

[18] Cambridgeshire County Council (CCC) (2007) *Cambridgeshire Design Guide for Streets & Public Realm* http://www.cambridgeshire.gov.uk/NR/rdonlyres/F4F290F0-E20F-47B8-8842-EC687AF9F8C7/0/CambridgeshireDesignManual040707_sm.pdf

[19] SCDC website: *Development Control Policies Development Plan Document* http://scambs.jdi-consult.net/ldf/readdoc.php?docid=96&chapter=2&docelemid=d14443#d14443

[20] SCDC website: *District Design Guide Supplementary Planning Document* http://www.scambs.gov.uk/environment/planning/districtplanning/localdevelopmentframework/spds/districtdesignguidespd.htm

option is, through careful design, to negate or reduce the demand for materials that more conventionally, or less thoughtfully, would otherwise have been required.

Waste Hierarchy

8.91 Essential requirements: Applicants should prepare a Resource Reuse and Recycling Scheme to cover all waste arising during the proposed construction and/or demolition. Where possible, this should include the appropriate accommodation of construction spoil within the development and maximising the reuse and recycling of any suitable raw materials currently available on site during construction, such as redundant buildings or infrastructure. The Site Waste Management Plans Regulation 2008 places a legal requirement upon applicants to have a Site Waste Management Plan (SWMP) for all new construction projects costing more than £300,000. A SWMP will need to forecast how much of each type of waste will be produced on site and how it will be managed.

8.92 Delivery options: Applicants should demonstrate how they are planning to use recycled material, reduce waste and ensure that as much of this is reused or recycled as possible. Acting upon these objectives will probably require that the site incorporates facilities for waste sorting and recycling alongside procedures to minimise waste and maximise recycling during construction and demolition.

Chapter 10 – Environmental Health Issues: Waste / Refuse Collection and Recycling – Operational

10.1 Adequate, safe and secure provision should be provided for the storage of the waste and recycling materials' collection receptacles (Council or Private Contractor), for all residential (domestic) and non-residential buildings (commercial) uses, without creating a nuisance or being unsightly for the occupants or the general streetscape.

10.2 To prevent the storage of such materials becoming a nuisance or unsightly in the future, the design of storage facilities should be sufficiently large to accommodate future expansion of recyclable materials collected and therefore an increase in the number of recycling containers required to be stored.

10.3 Access for refuse vehicles is best provided by means of permeable grid layout, but where dead ends are unavoidable, turning heads must be provided. Development layouts and the provision of operational waste and recycling provision on-site must accord with Building Regulation H6 and the requirements of the Recycling in Cambridgeshire and Peterborough Partnership (RECAP) Waste Management Design Guide 2008 (RECAP Guide) and the Cambridgeshire Design Guide for Streets & Public Realm. The RECAP Guide was originally published by the RECAP Partnership in 2008 and adopted as SCDC policy in 2008. It has been recently revised [September 2011] by the County Council together with Peterborough City Council as a draft Supplementary Planning Document (SPD).

10.4 Guidance contained within the emerging County Council draft SPDs [Waste Management Design Guide SPD and The Location and Design of Waste Management Facilities SPD] will also relate to policies 16 and 28 in the emerging Minerals & Waste Core Strategy covering Waste Minimisation, Reuse, and Resource Recovery and the provision of HRCs.

Northstowe Area Action Plan (2007)[21]

2.5.5 The NAAP establishes an overall vision for the new town including its relationship with surrounding villages and its setting. It also sets out the policies and proposals to guide all the phases of development.

2.5.6 The following extract from the AAP is considered to be of relevance to the proposed development:

Policy NS/24 Construction Strategy

Construction Methods:

'*5. Development at Northstowe will be required to recycle construction waste within the site during construction and in the long term. Exceptions would include waste having potentially hazardous properties and any other materials where off-site treatment would be more appropriate. A 'Resource Re-use and Recycling Scheme' will be needed to address treatment of all waste arising during the development*'.

[21] SCDC website: *Northstowe Area Action Plan* http://www.scambs.gov.uk/documents/retrieve.htm?pk_document=905692

3 MANAGEMENT OF CONSTRUCTION WASTE

3.1 INTRODUCTION

3.1.1 The following sections detail how overarching waste management practices would be undertaken during the construction phase of the proposed development.

3.2 CONSIDERATE CONSTRUCTORS SCHEME

3.2.1 In the first instance, it is recommended that the Principal Contractor registers with the 'Considerate Constructors Scheme'[22]. This is a national initiative, set up by the construction industry. Sites that register with the Scheme sign up and are monitored against a Code of Considerate Practice, designed to encourage best practice beyond statutory requirements.

3.2.2 The Scheme is concerned about any area of construction activity that may have a direct or indirect impact on the image of the industry as a whole. The main areas of concern fall into three main categories: the environment, the workforce and the general public. Waste management is a key area of focus and on-site considerations may include:

- How waste is avoided, reduced, reused, and/or recycled;
- Whether there is a SWMP and how this is monitored; and
- What type of feedback is received (if any) as to how much waste on-site is diverted from landfill.

3.2.3 It is expected that registered construction sites work in an environmentally conscious, sustainable manner.

3.3 SITE WASTE MANAGEMENT PLAN

3.3.1 Site Waste Management Plans (SWMPs) are a statutory requirement for all projects with a construction cost of more than £300,000[23]. SWMPs provide a structure for systematic waste management at all stages of a project's delivery and will be prepared for the proposed development.

3.3.2 They aim to address two key issues:

- Improving materials resource efficiency, by promoting the economic use of construction materials and methods so that waste is minimised and any waste that is produced can be reused, recycled or recovered in other ways before disposal options are explored; and
- Reducing fly-tipping, by restricting the opportunities available for the illegal disposal of waste by ensuring compliance with existing legal controls and providing a full audit trail of any waste that is removed from the construction site.

3.3.3 A summary of the details required in the first draft of the SWMP is set out below:

[22] Considerate Constructors Scheme http://www.ccscheme.org.uk/

[23] Statutory Instruments 2008 No. 314 *The Site Waste Management Plans Regulations 2008* http://www.opsi.gov.uk/si/si2008/uksi_20080314_en_1

Responsibilities
1. The Client
2. The Principal Contractor
3. The person who drafted the SWMP
Description of the Construction Works
4. The location of the construction site
5. The estimated cost of the project
Materials Resource Efficiency
6. Any decision taken before the SWMP was drafted to minimise the quantity of waste produced on-site
Waste Management
7. Description of each waste type expected to be produced during the project
8. An estimation of the quantity of each waste type that will be produced
9. Identification of the waste management action proposed for each waste type (including reuse, recycling, other types of recovery and disposal)
Waste Controls and Handling
10. A declaration that all waste produced on the site is dealt with in accordance with the waste Duty of Care[24]
11. A declaration that materials will be handled efficiently and waste managed appropriately

3.3.4 The SWMP will be updated as often as necessary to give an accurate record of how work is progressing against the waste quantity estimates. For waste that is reused or recycled on-site, the SWMP will be updated to describe how much of the estimated volume or tonnage has been processed.

3.3.5 For waste that is removed from the Application Site, the SWMP will be updated to record the identity of the person removing the waste, the type (and quantity) of waste and the site to which it has been taken.

3.3.6 At the end of the project the completed SWMP, containing records of all waste management actions, will be reconciled against what was planned before the work commenced. Regular updating during the proposed works phase should make this a relatively straightforward process.

3.3.7 Table 3.1 outlines some of the roles and responsibilities which different team members will have to adopt, as part of the SWMP development process.

[24] Section 34 of the Environmental Protection Act 1990 and the Duty of Care Regulations 1991

Table 3.1: Roles and responsibilities

Team Member	Key Roles	Main Responsibility	Other Roles
Applicant	• Promote waste minimisation • Insist on good practice from all other team members • Ensure that all hazardous waste has been identified prior to construction	• Duty of Care • Insistence on good practice	Identification of waste reduction opportunities
Architect	• Consider design options • Promote use of reclaimed elements • Reduce 'bespoking'	• Duty of Care • Reducing waste production by design	Identification of waste reduction opportunities
Main Contractor – Site Manager	• Develop site specific waste strategy, implement and communicate to all parties. Monitor implementation • Work with design team • Drive segregation of waste arisings • Facilitate on-site storage compounds/ treatment of segregated materials • Designation of working area for waste activities • Reduce waste being brought onto site as packaging etc. • Ensure appropriate storage of waste and containers on-site • Keep proper records of all waste produced/ reused/ sent off-site • Ensure appropriate off-site transport in line with local regulatory requirements • Identify and confirm all destinations for waste leaving the site	• Health and Safety • Development of the waste strategy • Management of onsite processes and programme • Record keeping and Duty of Care	Hazardous waste identification and management
Sub-Contractors	• Develop method statements for activities on-site • Liaise with Main Contractor and agree way forward	• Duty of Care • Production of Method Statements • Ensure all activities under their direct control are managed	• Assist in ensuring on-site practices are safe and would not impact negatively on the environment

Team Member	Key Roles	Main Responsibility	Other Roles
		appropriately	• Ensure that waste are properly segregated
Site Operatives	• Question unsatisfactory practices on-site • Follow instructions as provided	• Duty of Care • Ensure all activities under their direct control are managed appropriately	• Assist in ensuring on-site practices are safe and would not impact the environment • Ensure that waste are segregated

3.3.8 For reference purposes, a Framework SWMP document has been included in Appendix B. This may be adapted as required for specific phases of the proposed development.

3.4 SITE PREPARATION & EARTHWORKS

3.4.1 A Construction Management Strategy[25] (CMS) has been prepared for the proposed development which outlines a series of strategies, standards, best practice techniques and procedures that will be observed through the construction process in order to ensure compliance with environmental legislation and regulations. This will ensure minimal disruption and nuisance from the construction process to the existing communities in the surrounding area and the new communities to be established within the settlement.

3.4.2 Waste arising from site clearance, primary infrastructure and earthworks is expected to comprise vegetation, topsoil, rubble, tarmac from former hardstandings, gravel and clay material.

3.4.3 It is anticipated that where practicable, topsoil will be reused for residential gardens and/or open spaces.

3.4.4 Any clean excavated material that cannot be reused on-site would be removed by licensed waste carriers and sent for reuse at another development site or sent for disposal at appropriately licensed facilities (these are expected to be inert waste landfill sites).

Management of Contaminated Material

3.4.5 Any contaminated material that would require removal from the Application Site would be collected by suitable waste carriers and sent for disposal at appropriately licensed hazardous waste facilities.

3.5 CONSTRUCTION WASTE

3.5.1 The Building Research Establishment (BRE) has developed indicators to aid in the calculation of construction waste arisings at the design stage of a new development. The Environmental Performance Indicator (EPI) measures tonnes of waste/100m^2 of floor area. Table 3.2 shows the relevant EPI for the proposed development.

[25] WSP (2012) *Northstowe Phase 1 Construction Management Strategy*

Table 3.2: Waste benchmarks

Project Type	Tonnes / 100m^2 gross internal floor area
Residential	19.7
Commercial Offices	16.3
Commercial Retail	22.1
Education	35.3
Public Buildings	24.7
Industrial Buildings	14.3

Source: BRE Waste Benchmark Data (issued 2012)

3.5.2 The indicators above have been used to start measuring construction waste generated from the proposed development and relates to waste generation rates where no minimisation, reuse or recycling of materials has taken place. It would be the baseline figure for which a reduction in waste arisings would be undertaken.

3.5.3 Table 3.3 shows the estimated construction waste arisings for the residential element of the proposed development. The residential figures are based on an assumed average floor area per dwelling type and the construction waste benchmark standards for residential buildings.

Table 3.3: Estimated construction waste arisings (residential elements)

Type	Number of Units	Assumed average floor area per unit (m^2)*	Assumed total floor area (m^2)**	Tonnes/100m² floor area (BRE)	Construction waste arisings (tonnes)**
2 bed	Up to 375	60.9	22,838	19.7	Up to 4,499
3 bed	Up to 690	78.8	54,372	19.7	Up to 10,711
4 bed	Up to 330	88.8	29,304	19.7	Up to 5,773
5+ bed	Up to 105	104	10,920	19.7	Up to 2,151
Total	**Up to 1,500**	**-**	**-**	**-**	**Up to 23,134**

* Source: Energy Saving Trust - Meeting the 10% target for renewable energy – CE 190

** Figures have been rounded

3.5.4 The estimation shows that up to 23,134 tonnes of waste may arise from construction works associated with the residential elements of proposed development.

3.5.5 Table 3.4 shows the estimated construction waste arisings for the non-residential elements of the proposed development, based on the maximum quantum of development and the construction waste benchmark standards from BRE. (Note: these figures illustrate the reasonable 'worst case scenario' with regard to construction waste arisings, as the precise footprints of the buildings have yet to be defined. Construction waste arisings will require refining once these details are known).

Table 3.4: Estimated construction waste arisings (non-residential elements)

Element	Assumed area (m^2)	Project Type (BRE)	Tonnes /100m^2 floor area (BRE)	Construction waste arisings (tonnes)*
Primary school	Up to 3,140 †	Education	22.4	Up to 703
Local Centre				
Community building	Up to 900	Public Buildings	24.7	Up to 222
Ground floor retail	Up to 1,500	Commercial Retail	34.3	Up to 515
Other commercial/retail/food & drink/community & other appropriate uses	Up to 450	Commercial Retail**	34.3	Up to 154
Employment				
B1 offices	Up to 6,370	Commercial Offices	16.3	Up to 1,038
B2 general industrial	Up to 5,096	Industrial Buildings	14.4	Up to 734
B8 storage and distribution	Up to 1,274	Industrial Buildings	14.4	Up to 183
Household Recycling Centre (HRC)	Up to 3,125 ††	Industrial Buildings	14.4	Up to 450
			Total	**Up to 3,999**

* Figures have been rounded.

† Source: Department for Education (2004) *Building Bulletin 99 (2nd Edition)* *http://media.education.gov.uk/assets/files/pdf/b/building%20bulletin%2099%20-%20briefing%20framework%20for%20primary%20school%20projects.pdf*.

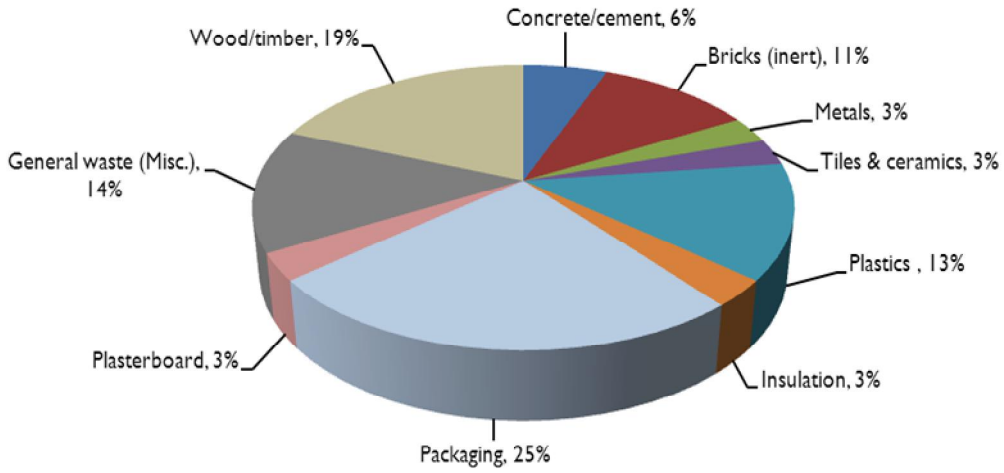
†† Assumed that only a percentage of the indicative total area is built up (i.e. 25% of up to 12,500m^2 for the HRC).

** Assumed to be Commercial Retail so as to estimate the reasonable 'worst case scenario' for construction waste arisings.

3.5.6 The estimation shows that up to 3,999 tonnes of waste may arise from construction works associated with the non-residential elements of proposed development.

3.5.7 Figure 3.1 illustrates the estimated composition of construction waste arisings for the proposed development.

Figure 3.1: Estimated construction waste composition (SmartWaste, 2009)



3.5.8 The figures above are based on standard construction operations in the UK and the estimated volumes identified above can be lowered through on-site good waste management practice. Opportunities to prevent and reduce the generation of construction waste are detailed in the following sub-sections.

3.6 RAW MATERIALS AND WASTE STORAGE

3.6.1 The location and provision of raw materials and waste storage on-site would be clearly labelled, identifying the materials that can be received. Provisions that would be made would include:

- Temporary offices retaining all details relating to the SWMP, health and safety and waste management monitoring and reporting details;
- Storage areas for raw materials and assembly areas for construction components would be located away from sensitive receptors;
- Colour-coded skips/containers would be provided for segregated waste streams for reuse and recycling;
- Dedicated skips would be provided for any waste that requires off-site disposal;
- Hazardous waste materials would be stored in secure bunded compounds in appropriate containers which are clearly labelled to identify their hazardous properties and are accompanied by the appropriate Control of Substances Hazardous to Heath (COSHH) assessment sheets; and
- Any fuels, oils and chemicals would be stored in appropriate containers within secure bunded compounds in accordance with good site practice and regulatory guidelines and located away from sensitive receptors.

3.6.2 The provision of effective and secure storage areas for raw materials is important to ensure that potential loss of material from damage, vandalism or theft is avoided. These measures would be supported by:

- Ensuring deliveries to the site are, as far as reasonably practicable, on a 'just in time' basis;
- Providing on-site security; and
- Installing temporary security fencing.

3.6.3 Temporary site waste segregation areas would be provided to ensure construction waste materials were securely stored prior to recycling or disposal. It is acknowledged, however, that construction sites can be space constrained; therefore the segregation of waste may not separate the full suite of materials suitable for recycling and this may be done off-site by appropriately licensed waste contractor(s).

3.6.4 Implementation of good practice measures in terms of on-site storage and security practices would assist in reducing unnecessary wastage of material and ensure that high standards are maintained throughout the development process.

3.7 SETTING TARGETS

3.7.1 Appropriate targets and objectives need to be set in relation to the minimisation and recycling of any waste materials. This would ensure that a clear action plan is generated for the management of specified types and quantities of materials identified.

3.7.2 The findings of any site audits would assist in the development of suitable material-specific targets and these would be agreed at the inaugural meetings with the contractors.

3.7.3 Table 3.5 provides an overview of the government's Waste and Resources Action Programme (WRAP) *Standard*, *Good*, and *Best Practice* recovery rates by material:

Table 3.5: Standard, Good, and Best Practice recovery rates by material

Material	Standard Recovery* %	Good Practice Recovery* (Quick Win) %	Best Practice Recovery* %
Timber	57	90	95
Metals	95	100	100
Plasterboard	30	90	95
Packaging	60	85	95
Ceramics	75	85	100
Concrete	75	95	100
Inert	75	95	100
Plastics	60	80	95
Miscellaneous	12	50	75
Electrical Equipment	Limited information	70**	95
Furniture	0-15	25	50
Insulation	12	50	75
Cement	Limited information	75	95
Liquids and oils	100	100	100
Hazardous	50	Limited information***	Limited information***

* Proposed waste management actions

'Reuse' and 'recycling' are forms of waste recovery.

** This is a required recovery target for the type of Waste Electrical and Electronic Equipment (WEEE) likely to be produced from construction sites, e.g. lighting (the WEEE Regulations).

***This cannot be 100% as most hazardous waste streams (e.g. asbestos) must be landfilled.

3.7.4 To ensure that the system of waste minimisation, reuse and recycling is effective, consideration would be given to the setting of on-site waste targets for the proposed development and a suitable programme of monitoring at regular intervals to focus upon:

- Quantifying raw material wastage;
- Quantifying the generation of each waste stream;
- Any improvements in current working practices;
- Methods by which the waste streams are being handled and stored; and
- The available waste disposal routes used, e.g. landfill, waste transfer stations.

3.7.5 The Principal Contractor would be responsible for the setting and review of waste targets from the outset to ensure that high standards are maintained with the emphasis being on continual improvement.

3.7.6 Specific waste quantification and monitoring (i.e. through the SWMP) would assist in determining the success of waste management initiatives employed and progress against these targets should be relayed back to the Project Team.

3.8 PROMOTION OF BEST PRACTICE

3.8.1 As part of the encouragement of on-site best practice, there would also be a need to ensure that suppliers of raw materials for the projects are committed to reducing surplus packaging associated with the supply of any raw materials. This includes the reduction of plastics (i.e. shrink wrap and bubble wrap), cardboard and wooden pallets. This may involve improved procurement and consultation with selected suppliers regarding commitments to waste minimisation, recycling and the emphasis on continual improvement in environmental performance.

3.8.2 Table 3.6 summarises the most important mitigation measures to minimise the potential waste of on-site materials during the proposed works. It is important to note, however, that not all raw materials would be provided by local suppliers.

Table 3.6: Measures to reduce the wastage of raw materials

Ordering	**Delivery**
Avoid: • Over-ordering (order 'just in time') • Ordering standard lengths rather than lengths required • Ordering for delivery at the wrong time (update programme regularly)	Avoid: • Damage during unloading • Delivery to inappropriate areas of the site • Accepting incorrect deliveries, specification or quantity
Storage	**Handling**
Avoid: • Damage to materials from incorrect storage • Loss, theft or vandalism through secure storage and on-site security	Avoid: • Damage or spillage through incorrect or repetitive handling

3.8.3 Where practicable, waste streams that have the potential to be reused on-site or transported off-site for recycling would need to be segregated. Although every effort would be made to retain all suitable materials on-site, it is possible that some of these materials cannot be reused or recycled during the proposed works. In these situations, the Site Manager would work to identify suitably licensed waste facilities in order for material to be redistributed to other suitable sites. This represents the most sustainable alternative to landfill disposal.

3.9 MONITORING AND REPORTING

3.9.1 It would be a condition of contract for the Principal Contractor to discuss and agree any recovery rates (see Table 3.5 above) to be targeted at the inaugural meetings. A monitoring report would then be generated on a monthly basis which would include details of the progress made in diverting waste materials from landfill, against these pre-agreed targets.

3.9.2 On completion of the proposed works, the contractor would report on the site performance against the agreed waste targets to the Project Team and SCDC. This would be demonstrated through providing evidence of the actual volume of waste collected for disposal and the volume collected for reuse and recycling.

3.9.3 Contractors would be expected to provide evidence through the collation of waste transfer notes, invoices etc. This information would all be included within the SWMP.

3.10 TRANSPORT AND TRAFFIC IMPACTS

3.10.1 The logistics associated with waste from the proposed works would be affected by a wide range of factors. The quantity and types of waste materials generated would fluctuate during this period and the resulting

number of waste collections would be dictated by a range of variables, including the amount of storage space for waste, the capacity of containers used, the materials segregated for recycling and whether any on-site processes would be used for reducing the volume of waste (compactors/balers/shredders etc.).

3.10.2 The Principal Contractor would provide construction waste logistics forecasts, which would be discussed with waste contractors and SCDC following appointment of relevant parties.

3.10.3 The impact of traffic associated with the movement of raw and waste materials during the proposed works on surrounding neighbourhoods and the local road network would be minimised by a combination of factors. Options include minimising, where possible, the off-site removal of waste to landfill and adoption of vehicle backhauling.

4 MANAGEMENT OF OPERATIONAL WASTE

4.1 INTRODUCTION

4.1.1 This section outlines the plan which will be adopted to successfully manage the waste arisings from the residential and non-residential elements of the proposed development once operational.

4.2 SCDC WASTE MANAGEMENT SERVICES

4.2.1 Table 4.1 outlines the waste management services that are currently provided by and on behalf of SCDC:

Table 4.1: Waste management services

Refuse	Black wheeled bin
Recycling	Blue wheeled bin: Plastic bottles, plastic packaging, plastic bags, plastic film, glass bottles & jars, metal cans, aerosols, foil, cartons, cardboard Caddy (placed inside wheeled bin): Paper, newspapers & magazines, telephone directories, catalogues, shredded paper Battery bag: household batteries.
Garden and food waste	Green wheeled bin
Bulky waste	Chargeable kerbside collection service. Residents can alternatively deposit waste for free at Household Waste Recycling Centres
Recycling sites	Numerous recycling sites with banks for paper, textiles, media (books, CDs, DVDs etc.) and small electrical items
HRCs	Milton, Butt Lane, CB24 6DQ Thriplow, Gravel Pit Hill, SG8 7HZ
Commercial waste	Chargeable collection service

4.3 HOUSEHOLD RECYCLING CENTRE & BRING SITES

4.3.1 Providing a strategic facility for the whole of Northstowe, the Household Recycling Centre (HRC) is proposed to be located in the employment area in Phase 1 and will be designed in accordance with the principles from CCC's Location and Design of Waste Management Facilities SPD (outlined earlier in Chapter 2 of this strategy).

4.3.2 The Joint Promoters will provide a serviced site and a contribution towards capital funding for the HRC as part of the planning obligation.

4.3.3 Based on the standards listed in the table beneath section 9.7 in the RECAP Guide, a maximum density of one Bring Site per 800 homes will be sought. By the completion of the proposed development, two Bring Sites may be needed. Potential locations may be the local centre and the sports hub. However, the provision and requirement for a second Bring Site should be reviewed if the HRC is operational as it is likely to provide comprehensive recycling facilities for the proposed development.

4.4 GENERATION OF HOUSEHOLD WASTE

4.4.1 The calculation of future household waste generation has been estimated using Defra municipal waste statistics and SCDC data.

4.4.2 At this stage in the design process the figures can only be considered indicative as a variety of factors, such as the on-going promotion of waste minimisation and recycling, consumer habits and population changes etc. will impact on waste generation rates in future years.

4.4.3 As a baseline, Table 4.2 outlines how the average household waste generation rate per residential unit was established using SCDC waste data for 2009/10.

Table 4.2: Average household waste generation for SCDC

Total household waste generated within SCDC in 2009/10 (tonnes)[26]	57,575
Total number of households within SCDC boundary[27]	~61,000
Estimated mean waste generation per household per annum (tonnes)	0.94

4.4.4 This average household waste generation rate was then used to provide an estimate of the waste arisings from the future residents of the proposed development. This is outlined in Table 4.3.

Table 4.3: Estimated household waste arisings

No. of proposed Units	Average waste generation per household per annum (tonnes)	Tonnes / annum*	Tonnes / week*
Up to 1,500	0.94	Up to 1,410	Up to 27

* Note: Figure has been rounded

4.4.5 At this stage it is estimated that if current waste generation levels remained the same, the proposed development could potentially generate up to approximately 1,410 tonnes of household waste per annum (up to 27 tonnes per week).

4.4.6 Of this tonnage, a significant proportion will be separated for recycling and composting. For indicative purposes, assuming that at least half of the household waste from the proposed development will be recycled or composted (there is a 50% household waste recycling target for England by 2020[28]), this equates to up to approximately 705 tonnes per annum (up to 14 tonnes per week).

4.5 STORAGE OF HOUSEHOLD WASTE

Internal Storage

4.5.1 Based on the guidance contained in sections 4.4 and 4.5 of the RECAP Guide, internal waste storage containers that are easily accessible to residents will be provided within the kitchens of the residential units. The containers will have a total capacity of 35-40 litres and may be divided to allow the separation of recycling from refuse and, where appropriate, organic waste for composting.

External Storage - Houses

4.5.2 Based on the guidance contained in section 4.7 of the RECAP Guide, each house will have a suitable hard surface within the curtilage of the property of sufficient size on to which the required external storage containers will fit. This is assumed to be three wheeled bins for refuse, recycling and compostable waste.

4.5.3 Table 4.4 provides typical dimensions for two-wheeled bins of varying capacities.

[26] Source: Defra (2010) *Municipal Waste Statistics 2009/10*
[27] Source: SCDC Council Tax dept. (figure as of November 2011)
[28] Defra (2007) *Waste Strategy for England 2007*

Table 4.4: Wheeled bin dimensions (two-wheeled)

	Dimensions (mm)		
Capacity	**Length**	**Width**	**Height**
140 litres	500	555	950
240 litres	580	740	1,100
360 litres	480	880	1,100

4.5.4 It has been assumed that the majority of residents would be provided with standard 240 litre wheeled bins. Smaller households may be supplied with 140 litre bins, however they will still be provided with the necessary space to store three 240 litre wheeled bins.

4.5.5 The preferred location for these storage areas is at the rear of the property within a designated area. To ensure safe usage, sufficient space will be allocated to allow each wheeled bin to be individually accessed and removed by residents.

4.5.6 Storage of wheeled bins within front gardens or driveways should be generally avoided, unless it can be designed as an integral part of the building and architectural design, or another agreed container form within the front garden in accordance with the RECAP Guide.

4.5.7 For bulky waste, it has been assumed that residents will make arrangements with the local authority for collection and temporarily store the waste in an agreed location on their property.

External Storage - Flats

4.5.8 Waste storage for flats will comprise high quality communal bin stores with larger capacity wheeled bins for the separate collection of refuse and recycling. Residents will be required to deposit their refuse and recycling in the communal bin stores (unless a private facilities management firm is provided to undertake this service). Residents should not be required to walk more than 30 metres with their waste to a communal store.

4.5.9 These stores will be sensitively located and designed to cater for no more than six flats, taking into account the aesthetics of the area.

4.5.10 Suitable hard surfaces will be used and sufficient space to allow each wheeled bin to be individually accessed and removed to ensure safe usage for residents and collection crews. In accordance with the RECAP Guide, 150mm clear space will be provided between and around containers.

4.5.11 Table 4.5 provides typical dimensions for four-wheeled bins.

Table 4.5: Wheeled bin dimensions (four-wheeled)

	Dimensions (mm)		
Capacity	**Length**	**Width**	**Height**
500 litres	1,305	745	1,145
660 litres	1,265	740	1,320
770 litres	1,265	810	1,360
820 litres	1,250	1,800	1,370
1,100 litres	1,270	1,000	1,380
1,280 litres	1,280	1,000	1,445

4.5.12 It has been assumed that the use of 1,100 litre wheeled bins will be the prevalent choice for flats; however the availability of a range of four-wheeled bins will enable tailored waste storage options for specific buildings where appropriate. Unusual container sizes will be discussed with SCDC to ensure compatibility with waste collection vehicles.

4.5.13 For bulky waste, it has been assumed that residents will make arrangements with SCDC for collection and temporarily store the waste in an agreed location at ground level.

4.6 COLLECTION OF HOUSEHOLD WASTE

Wheeled Bin Delivery Strategy

4.6.1 The individual developers will develop a wheeled bin delivery strategy and pre-order the necessary number of wheeled bins with SCDC. It will be the responsibility of the individual developers to agree with SCDC as to the specific number and frequency of wheeled bin deliveries.

4.6.2 The Developers will be responsible for the delivery of wheeled bins to each unit before the first collection is needed.

4.6.3 The wheeled bins will remain the responsibility of the individual developers until the residential units have received their first waste collection. This will avoid delivery of wheeled bins to unoccupied properties.

Collection from houses

4.6.4 In accordance with the RECAP Guide, the distance from the curtilage of properties (or the agreed collection point for wheeled bins) to the refuse collection vehicle should not exceed 25 metres[29].

Collection from flats

4.6.5 In accordance with the RECAP Guide, the distance from the communal bin stores to the refuse collection vehicle should not exceed 10 metres; it is assumed that four-wheeled containers will be the primary storage option.

4.7 GENERATION OF NON-RESIDENTIAL WASTE

4.7.1 Likely volumes of non-residential waste have been calculated based on the most appropriate available data. Where applicable, the British Standard 5906:2005 *Waste management in buildings - Code of practice* has been used as guidance to identify the potential arising of commercial waste.

4.7.2 Table 4.6 outlines the estimated non-residential waste arisings.

[29] Source: RECAP Design Guide (Part 5 - Waste Storage Points)

Table 4.6: Estimated non-residential waste generated (per week)

Element	Equation for waste arisings (Source: BS5906:2005)	Weekly waste arisings (tonnes)	Annual waste arisings (tonnes)
Primary school	45kg of waste per pupil per academic year*	Up to 0.5	Up to 28
Community building	Volume per m^2 of floor area [5 l] x floor area	Up to 0.3	Up to 13
Ground floor retail	Volume per m^2 of sales area [100 l] x sales area	Up to 5.2	Up to 268
Other commercial/ retail/food & drink/ community & other appropriate uses	Volume per m^2 of sales area [100 l] x sales area	Up to 1.7	Up to 86
B1 offices	Volume arising per employee [50 litres] x number of desks	Up to 1.3	Up to 65
B2 general industrial	Volume per m^2 of floor area [5 l] x floor area	Up to 1.2	Up to 62
B8 storage & distribution	Volume per m^2 of floor area [5 l] x floor area	Up to 0.3	Up to 16
	Total	**Up to 11**	**Up to 538**

* Assumption there will be 630 pupils (source for equation: WRAP, 2008 *The nature and scale of waste produced by schools in England*)

** Figures have been rounded

4.7.3 At this stage it is estimated that the proposed development could potentially generate up to 538 tonnes of non-residential waste per annum (up to 11 tonnes per week).

4.7.4 The calculation and composition of non-residential waste generation will be further refined at a later design stage when the specific elements have been confirmed. This will enable the expected number and type of waste containers, the storage requirements and their collection frequencies to be defined.

4.7.5 Maintenance of the communal landscaped areas of the proposed development will generate organic waste i.e. grass cuttings, prunings and hedge trimmings. It is anticipated that this will be either utilised on the landscaped areas as mulch / composting agent or sent for off-site composting.

4.8 STORAGE OF NON-RESIDENTIAL WASTE

4.8.1 At this stage it is expected that the non-residential units will be provided with their own/shared waste storage areas for refuse and recycling with ease of access for end users and by collection vehicles.

4.8.2 It is recommended that at least a third of the allocated waste storage space should be dedicated to the storage of segregated materials for recycling.

4.8.3 All waste storage areas will be clearly labelled to ensure cross contamination of refuse and recycling is minimised.

4.8.4 Floor surfaces will be of a smooth, continuous finish and free from steps or other obstacles. Any steps will incorporate a drop-kerb. Measures will be taken by the tenants to ensure that access to the agreed collection point will not be restricted on collection day.

4.9 COLLECTION OF NON-RESIDENTIAL WASTE

4.9.1 It is assumed at this stage that collection of non-residential waste will be undertaken via external waste management contractors. It will be the responsibility of the tenants to arrange for refuse and recycling to be collected from their premises, the type of collection will be dependent on the nature of the businesses.

4.9.2 Waste collection frequency will be dependent upon the volume of waste generated, the storage method (i.e. whether balers and waste compactors are used) and the schedule of the appointed waste contractor.

5 SUMMARY & CONCLUSION

5.1 SUMMARY OF THE STRATEGY

Waste from the Construction Phase

5.1.1 In the first instance, it is recommended that the Client/Principal Contractor register the construction site with the '*Considerate Constructors Scheme*'.

5.1.2 For waste arising from the construction phase of the proposed development, materials would be separated into key waste groups. The contractor would provide a suitable area(s) within the construction site for the separation of materials for recycling (e.g. timber, metals, packaging, hardcore etc.).

5.1.3 It is acknowledged, however, that construction sites can often be space constrained and this may limit the opportunity for segregation of the full suite of materials on-site. This may instead be undertaken off-site by a suitable waste contractor.

5.1.4 SWMPs are now a statutory requirement and would be prepared for the proposed development. These would include details of the forecast and actual tonnage of each waste stream and their recycling/disposal route.

5.1.5 It would be a condition of contract for the contractors to discuss and agree waste recovery rates to be targeted at the inaugural meeting. A monitoring report would then be generated on a monthly basis which would include details of the progress made in diverting waste materials from landfill, against these pre-agreed targets.

Waste from the Operational Phase

5.1.6 The Joint Promoters will provide a serviced site and a contribution towards capital funding for the Household Recycling Centre as part of the planning obligation.

5.1.7 It is estimated at this stage that the proposed development could potentially generate up to 1,410 tonnes of household waste per annum (up to 27 tonnes per week). Residential units would incorporate sufficient internal waste storage containers to promote the separation of recycling and compostable materials at source. Externally, sufficient areas will be provided to enable at least three 240 litre wheeled bins to be stored in accordance with SCDC's waste collection arrangements.

5.1.8 For non-residential waste, it is anticipated that units will be provided with their own/shared waste storage areas for refuse and recycling for ease of access for end users and by collection vehicles.

5.1.9 At this stage it is estimated that the proposed development will generate up to 538 tonnes per annum (up to 11 tonnes per week).

5.2 CONCLUSION

5.2.1 This strategy has taken into account the need to lessen the overall impact of waste generation through minimisation, reuse and recycling of materials from both the construction and operational phases.

5.2.2 The proposals meet the requirements of relevant waste policy and follow applicable guidance.

5.2.3 Means by which to further reduce the waste arisings and increase recycling rates from the proposed development have been identified, to ensure that the Site can contribute to improved waste management performance.

Appendix A - RECAP Waste Design Guide Toolkit - Design Standards Checklist

Key Consideration	Step 1		Step 2
	Aware of Standard Minimum Expectations?	**Does this apply to you?**	**Submit proposals to planning authority** (Provide Plan/document reference)
Residential – Internal Storage requirement Refer to Part 4.4 of the Design Guide	35-40 litres of single dwellings and multi-occupancy developments (low-rise and high rise) permitting segregation of waste as appropriate. Typical container specifications are detailed in Appendix A.	Yes	To be addressed at reserved matters stage.
	Single dwelling – Space for containers allowing 775 litres of capacity must be provided. Typical container specifications are detailed at Appendix A. Provision of containers and/or financial contributions towards may also be required.	Yes	To be addressed at reserved matters stage.
Residential – External storage requirement Refer to part 4.7 of the Design Guide	Low-rise with communal gardens – Space for containers allowing 320 to 720 litres of capacity per unit (depending upon the room number) must be provided. Typical container specifications are detailed at Appendix A. Provision of containers and/or financial contributions may also be required.	Yes	To be addressed at reserved matters stage.
	Low-rise without communal gardens – Space for containers allowing 240 to 640 litres of capacity per unit (depending upon the room number) must be provided. Typical container specifications are detailed at Appendix A. Provision of containers and/or financial contributions may also be required.	Yes	To be addressed at reserved matters stage.
Commercial – Storage requirements Refer to part 4.18 of the Design Guide	Offices – 2,600 litres per 1,000m gross floor area. Typical container specifications detailed in Appendix A.	Yes	To be addressed at reserved matters stage.
	Retail – 5,000 litres per 1,000m gross floor area. Typical container specifications detailed in Appendix A.	Yes	To be addressed at reserved matters stage.
	Restaurants/Fast food outlets – 1,500 litres per 20 dinning spaces. Typical container specifications detailed in Appendix A.	Yes	To be addressed at reserved matters stage.
	Hotels – 5,000 litres per 20 dinning spaces. Typical container specifications detailed in Appendix A.	No	N/A
Waste storage Point – Single Houses	▪ Waste should not have to be moved more than 30m to storage area	Yes	To be addressed at reserved matters stage.

Key Consideration	Step 1		Step 2
	Aware of Standard Minimum Expectations?	**Does this apply to you?**	**Submit proposals to planning authority** (Provide Plan/document reference)
Refer to Part 5.5 of the Design Guide	▪ Storage location should not be more than 30m distance from the collection point ▪ Collection crews should not have to carry individual waste containers or move 2-wheeled containers more than 25m ▪ Passage of a 240 litre wheeled bin store to collection point should avoid steps, but where not possible should not transfer over more than 3 steps ▪ Gradients over which containers must traverse must not exceed 1:12 ▪ Not have to be moved through a building to the collection point		
Waste Storage Point – Flats and Apartments Refer to Part 5.7 in the Design Guide	▪ Waste should not have to be moved more than 30m (including vertical distance) to the storage area ▪ Storage location should not be more than 10m distance from the collection point ▪ Passage of waste containers from store to collection point should avoid steps, but where not possible should avoid transfer over more than 3 steps ▪ Gradients over which containers must traverse should not exceed 1:12	Yes	To be addressed at reserved matters stage.
Waste Storage Infrastructure Refer to Part 6 of the Design Guide	Where infrastructure is installed for the communal storage of waste a SIMPLE assessment of the location and the proposed infrastructure must be made against the key factors specified in the accompanying Assessment Criteria. The size of any storage area should not be capable of accommodating the required number of waste receptacles (and their associated dimensions) or provide adequate capacity, General design features for above-ground storage compounds: ▪ Sufficient clearance provided to allow full opening of container lid ▪ 150mm clear space between and around containers ▪ Minimum working headroom of at least 2m (where compound is covered); and ▪ Layout such that any one receptacle can be	Yes	To be addressed at reserved matters stage.

Key Consideration	Step 1		Step 2
	Aware of Standard Minimum Expectations?	**Does this apply to you?**	**Submit proposals to planning authority** (Provide Plan/document reference)
	serviced without having to move any other receptacle Specific design requirements are detailed at Appendix A. Specific design requirements are detailed at Appendix D and should be referred to. Underground storage systems require: ▪ Area(s) of ground free from services; and ▪ Sufficient clear space above and around to allow emptying of containers An indicative generic specification of an underground Bring Site facility is attached at Appendix G.		
Highways Refer to Part 7.3 of the Design Guide	Where development proposals will seek to utilise a standard service as provided by the Waste Collection Authority, highways should: ▪ Have a minimum width of 5m ▪ Permit collection vehicles to continue mainly in a forward direction ▪ Not require vehicles to reverse more than 12m ▪ Be constructed in accordance with relevant guidance; and ▪ Allow at least 4m vertical clearance. In addition a minimum of 3.5m width and 4m in length should be allowed where the emptying of containers takes place. Sufficient overhead clearance should also be provided to allow for operation.	Yes	To be addressed at reserved matters stage.
Household Recycling Centre requirement Refer to Part 8.7 of the Design Guide	Where appropriate, developers will be expected to: Provide finance for upgrading existing Household Recycling Centres; or ▪ Provide finance for new Household Recycling Centres; and/or provide land for strategically located Household Recycling Centres. Section 106 Agreements or other suitable legal agreements will be used to secure contributions/land and ensure that adequate provision is made.	Yes	Site for household recycling centre included as part of proposals – refer to Planning Obligation / draft scope for S106 Heads of Terms within Planning Supporting Statement.
Bring Site Requirement Refer to Part 9.5	To ensure provision of 1 bring site per 800 households, developers will be required to: ▪ Provide finance and/or provision of	Yes	Refer to Planning Obligation / draft scope for S106 Heads

Key Consideration	Step 1		Step 2
	Aware of Standard Minimum Expectations?	**Does this apply to you?**	**Submit proposals to planning authority** (Provide Plan/document reference)
of the Design guide	infrastructure for new sites; ▪ Provide finance for upgrading existing facilities. Residential developers will be minimally required to provide temporary on-site facilities by occupation of the 50th property. Both temporary and permanent Bring Site facilities should be located at least 20m distance from the nearest property, accessible by service vehicles and located so as to avoid damage to overhead services during servicing. Section 106 Agreements or other suitable legal agreements, will be used to secure contributions and ensure that adequate provision is made. A SIMPLE assessment of the location and proposed infrastructure must be made against the key factors as specified in the accompanying Assessment Criteria. In Peterborough, contributions related to off-site provision for development will be consistent with the Planning Obligations Implementation Scheme.		of Terms within Planning Supporting Statement.
Alternative Waste Management Schemes Refer to Part 1.16 of the Design Guide	A DETAILED assessment of the scheme must be made against the key factors as specified in the accompanying Assessment Criteria. A developer will be required to fund such schemes beyond the amount of Local Authority would otherwise pay for the standard service and pay for and provide non-standard infrastructure.	Yes	Refer to Planning Obligation / draft scope for S106 Heads of Terms within Planning Supporting Statement.

Appendix B – Example Site Waste Management Plan

Note: The Principal Contractor will develop the SWMP as a 'live' document which, following planning permission, will be regularly updated by the Principal Contractor to record how waste is actually managed during the course of the construction project.

The Principal Contractor must keep the SWMP for two years after the completion of the project at the Principal Contractor's principal place of business or at the site of the project.

INTRODUCTION

Site Waste Management Plan

A Site Waste Management Plan (SWMP) is now a statutory requirement for all projects with a cost of more than £300,000 excluding VAT[30]. SWMPs provide a structure for systematic waste management at all stages of a project's delivery.

SWMPs aim to address two key issues:

- **Improving materials resource efficiency**, by promoting the economic use of construction materials and methods so that waste is minimised and any waste that is produced can be reused, recycled or recovered in other ways before disposal options are explored; and
- **Reducing fly-tipping**, by restricting the opportunities available for the illegal disposal of waste by ensuring compliance with existing legal controls and providing a full audit trail of any waste that is removed from the construction site.

The SWMP will be updated regularly to give an accurate record of how work is progressing against the waste quantity estimates.

As the project enters different construction stages and as new trade contractors come on-site, the SWMP will be revised in light of their waste management methods and waste targets.

For waste that is reused or recycled on-site, the SWMP will be updated to describe how much of the estimated volume or tonnage has been processed.

For waste that is removed from the Site, the SWMP will be updated to record the identity of the person removing the waste, the type (and quantity) of waste and the site to which it has been taken.

At the end of the project the completed SWMP, containing records of all waste management actions, will be reconciled against what was planned before the work commenced. Regular updating during the proposed works phase should make this a relatively straightforward process.

The aim of this SWMP is to enable the project to:

- Comply with statutory requirements;
- Better control risks relating to materials and waste on-site;
- Establish a system to help make cost savings by better management of material supplies, storage and handling and better management of the recovery and disposal of waste.
- Help deal with queries from environmental regulatory bodies regarding the disposal of waste generated by the project; and
- Enable the Principal Contractor to demonstrate how it manages waste and minimises cost and risks.

[30] Statutory Instruments 2008 No. 314 *The Site Waste Management Plans Regulations 2008* http://www.opsi.gov.uk/si/si2008/uksi_20080314_en_1

PROJECT INFORMATION

Project Name:	
Site location and description of project:	
Client:	
Principal Contractor:	
Project start date (DD/MM/YYYY):	
Project end date (DD/MM/YYYY):	
Site footprint (m^2):	
Estimated cost of the project (£)	
Where will this document be kept on-site:	

RESPONSIBILITIES

Declaration

The Client and Principal Contractor in charge of the project will take all reasonable steps to ensure that:

1. All waste from the site is dealt with in accordance with the waste Duty of Care in section 34 of the Environmental Protection Act 1990(a) and the Environmental Protection (Duty of Care) Regulations 1991(b) and;
2. Materials will be handled efficiently and waste managed appropriately.

Client		**Principal Contractor**	
Signed by		**Signed by**	
Print name		**Print name**	
Organisation		**Organisation**	
Date		**Date**	

The persons responsible for on-site waste management on the project on-site are:

Name	**Position**	**Company**

The team is responsible for the following:

- Promoting awareness of the SWMP among the work force.
- Waste planning including identification of types and European Waste Catalogue (EWC) codes of waste anticipated.
- Monitoring and reporting site waste.
- Monitoring and possibly enforcing waste segregation on-site.
- Monitoring the effectiveness of the SWMP.
- Forming a good working relationship with the waste management contractor(s).
- Encouraging suggestions for better waste management on-site.
- Reviewing and regularly updating SWMP.

PRE-DESIGN & DESIGN STAGES

Decisions taken before the SWMP was drafted on the nature of the project, its design, construction method or materials employed in order to minimise the quantity of waste produced on-site.

Pre-Design Stage	
Design Stage	

CONSTRUCTION WASTE STRATEGY

Outline Construction Plan and Phasing

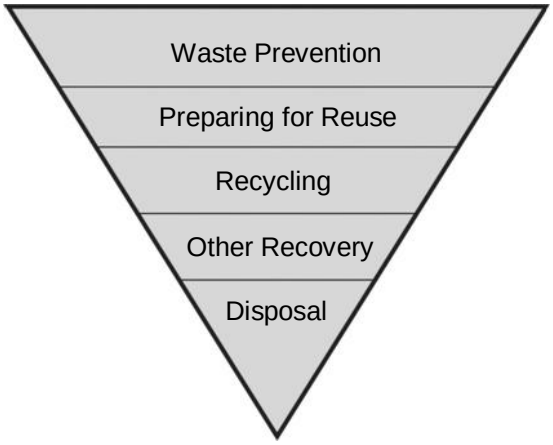
The programme for the project is set out below:

Work Phase	Start Date	End Date

Waste Hierarchy

The waste hierarchy requires avoidance of waste in the first instance followed by reducing the volume that requires disposal after it has been generated.

The waste hierarchy gives an order of preference for waste management options to minimise the volume for disposal, as shown in the figure below.



Source: Revised Waste Framework Directive

The main principles of the waste hierarchy are:

- Waste should be prevented or reduced at source as far as possible;
- Where waste cannot be prevented, waste materials or products should be reused directly or refurbished and then reused;
- Waste materials should be recycled or reprocessed into a form that allows them to be reclaimed as a secondary raw material;
- Where useful secondary materials cannot be reclaimed, the energy content of the waste should be recovered and used as a substitute for non-renewable energy resources; and
- Only if waste cannot be prevented, reclaimed or recovered, should it be disposed of into the environment and this should only be undertaken in a controlled manner.

Considerate Constructors Scheme

The Principal Contractor will register the Site with the '*Considerate Constructors Scheme*' which is a national initiative, set up by the construction industry.[31]

Sites that register are monitored against a Code of Considerate Practice, designed to encourage best practice beyond statutory requirements.

The Scheme is concerned about any area of construction activity that may have a direct or indirect impact on the image of the industry as a whole. The main areas of concern fall into three main categories: the environment, the workforce and the general public. Waste management is a key area of focus.

It is expected that construction sites will work in an environmentally conscious, sustainable manner.

Waste Minimisation

All measures to reduce the waste on-site are to be considered. This can include the control of construction materials to site for just-in-time deliveries to reduce the amount of material in store on-site (less risk of damage) and adequately protected or isolated storage areas.

Reuse

This can, for example, be achieved by reusing packaging to products delivered to site, a return cycle for pallets and other transport-related products to be reused a multitude of times.

Manufacturing products from recycled materials is an obvious solution that is of benefit to the manufacturer, end user and the environment.

Much of the reuse of materials on the project will be dictated by the practices of the contractors. It will be policy of the Principal Contractor to encourage them to reuse as much as possible.

If proven economic and if adoptable standards could be met, brick and concrete in the existing building and the tarmac to the external roads will be crushed on-site and reused as sub-base and fill material in the new building and external hardstandings.

Materials that can be reused or practices adopted include:

- Concrete from demolition/enabling to be crushed on-site
- Resizing of timber for use in formwork and construction site walkways;
- Using off-cuts to make signs; and
- Reuse packaging as protection for finished work (and then either reusing again, or as a minimum, recycling).

Recycling

Some manufacturers run recycling schemes for their products - e.g. plasterboard - and these services will be part of the project procurement strategy to buy this as part of the sub-contract or via a waste management contractor.

It is anticipated that the main recyclable materials such as metal, timber etc. will be collected in separate containers with clear labelling and the remaining waste will be collected in large containers which will be sent off-site and separated by a waste management contractor.

Hazardous and non-hazardous waste streams are to be identified before use on-site and there removed will be by the responsible waste management contractor.

[31] Considerate Constructors Scheme http://www.ccscheme.org.uk/

Disposal

The option of last resort is disposal into a landfill site. All other options above will need to be explored prior to disposal. Landfill is also very quickly becoming the least economical option due to reduction in landfill site availability and increases in Landfill Tax.

Some subsoil will be required to be removed off-site as there are no opportunities to introduce significant mounding into the scheme. If there are no opportunities to reuse this material off-site, a suitably licensed inert landfill site will be used. Any contaminated material that would require removal from the Application Site would be collected by suitable waste carriers and sent for disposal at appropriately licensed hazardous waste facilities.

Training & Awareness

Each contractor will be responsible for training their workforce on waste management procedures.

The Principal Contractor will encourage them to include waste reduction and recycling in the training and will ask all contractors to give a 'toolbox talk' on waste.

Some waste streams will be segregated on-site but the majority of the waste segregation will take place off-site. The waste management contractor(s) will be responsible for the training of their workforce on segregation.

To promote the waste management message at the project there will be signs and posters around the site and welfare and office areas - showing waste disposal areas, types of waste containers and waste reduction messages.

Estimates of the types and amounts of construction waste that are expected to be generated on the project

Waste Category and Type	Estimated Quantity		Trade Contractor Package	Waste minimisation opportunities	Reuse/Recycling		Recovery (off-site)	Disposal (off-site)
	(m^3)	(tonnes)			On-site	Off-site		
Inert Waste								
Ceramics				Segregate and store on-site	Crush and use as backfill	Crush and use as backfill		Inert landfill
Inert bricks / rubble				Segregate and store on-site	Crush and use as backfill	Crush and use as backfill		Inert landfill
Concrete				Prefabrication of concrete formwork off-site, on-site batcher, planning of concrete pours	Crush and use as backfill	Crush and use as backfill		Inert landfill
Sub-total								
Non-Hazardous								
Canteen / Office / Misc.				Use reusable crockery and cutlery, minimise printing of paper, promote packed lunches	Reuse paper	Segregation for recycling and/or composting	Energy from waste facility	Non-hazardous landfill
Insulation						Segregate for re-melt reprocessing		Non-hazardous landfill
Metals				Pre-fabrication, correct ordering, 'just in time' delivery, store correctly		Segregate and send to metal recycler		
Packaging				Ask suppliers to send with minimal packaging, use of multi-trip containers, bulk purchase as opposed to individual purchase	Retain and return reusable packaging and materials to suppliers	Segregate packaging into key material streams for recycling	Energy from waste facility	Non-hazardous landfill

Plaster/cement								
Plastics						Segregate and send to plastics recycler		Non-hazardous landfill
Timber				Use steel shuttering, reuse all shuttering	Reuse for shuttering, temporary hoardings and general carpentry	Segregate and send to wood recycler	Energy from waste facility	Non-hazardous landfill
Sub-total								
Hazardous								
Electrical equipment				Promote good housekeeping and maintenance	Recondition and reinstall equipment with residual operational life span	Segregate and send to electrical reprocessor		
Plasterboard				Use of standard lengths, correct storage to prevent deterioration	Reuse off cuts	Segregate and send to plasterboard recycler		Hazardous landfill
Liquids and Oils						Segregate for collection by oils recycler	Energy from waste facility	
Sub-total								
TOTAL								

KEY PERFORMANCE INDICATORS

In order to maximise the benefits to be derived from the SWMP, it is essential that the correct Key Performance Indicators (KPIs) are selected. This will allow the data from the current and future projects to be collected within a database which will enable improved waste generation projections to be calculated. This will allow the Client and Principal Contractor to recognise good practice and areas where process improvements can be made.

Listed below is a selection of KPIs that could be used:

(NOTE: these KPIs can be calculated using either m^3 or tonnes)

Waste Generation:

m^3 per £100,000 of project value

m^3 per $100m^2$ of floor space

m^3 per project area (m^2)

Recycling and recovery rates:

% of total waste reused on-site

% of total waste reused off-site

% of total waste recycled on-site

% of total waste recycled off-site

Diversion of Waste from Landfill

As a % of total waste

Segregation Rates

Total segregation

Cost of Waste

Waste cost per £100,000 of project cost

Waste cost per $100m^2$ of floor area

Waste cost per project area (m^2)

Use of reused and recycled materials (within the construction phase)

Recycled content by material value – recycled content toolkit and guidance available at http://rctoolkit.wrap.org.uk

Recycled content by volume as a %

DUTY OF CARE

Whenever waste is removed from the site, the Principal Contractor must record within the SWMP:

(a) the identity of the person removing the waste;

(b) the types of waste removed; and

(c) the site that the waste is being taken to.

Waste Management Contractor		**Waste Carriers Licence No.**	**Types of waste removed**	**Site that the waste is being taken to**		
Name	**Address**			**Name and type (Landfill, Transfer Station etc.)**	**Location**	**Environmental Permit No.**
Hazardous Waste Management Contractor		**Hazardous Waste Registration No.**	**Types of waste removed**	**Site that the waste is being taken to**		
Name	**Address**			**Name and type (Landfill, Transfer Station etc.)**	**Location**	**Environmental Permit No.**

Free web-based tool to locate the nearest most suitable waste management site in order to reduce transport of waste: http://www.bremap.co.uk/

WASTE MANAGEMENT RECORDING

Waste		Total quantities generated		Reused, Recycled, Recovered		Disposal		Difference	Reason for variance
Type	Material	Estimated (m^3 / tonne)	Actual (m^3 / tonne)	Estimated (m^3 / tonne)	Actual (m^3 / tonne)	Estimated (m^3 / tonne)	Actual (m^3 / tonne)	(+/-)	
Inert									
Non-hazardous									
Hazardous									

ONGOING REVIEW

The SWMP will be regularly checked and updated. Use the table below to keep a log of when the SWMP was monitored and the subsequent actions carried out.

Date	Name	Summary / Action carried out

COMPLETION REVIEW

This section must not be completed until the project has ended and be filled in by the Principal Contractor within three months of completion of the project:

I confirm that the SWMP has been undertaken in line with the regulations and has been monitored and updated on a regular basis

Signature	
Print name	
Date	

This stage is designed to help you evaluate the success of your SWMP, and to identify key 'lessons learnt' to use on your future projects, it is helping you strive for continual improvement.

Explanation of any deviation from the SWMP:

Waste forecasts exceeded: Waste forecasts not reached:

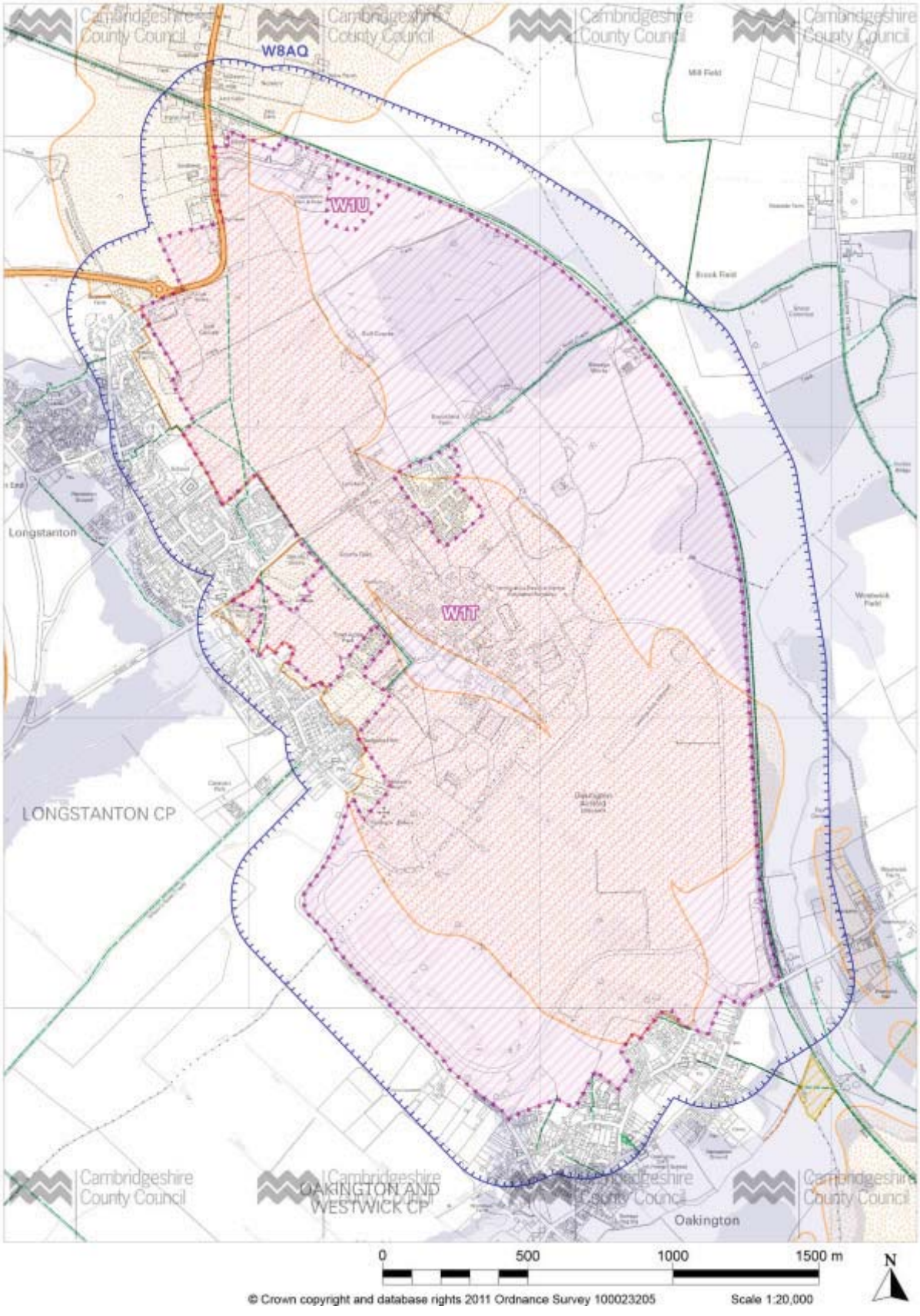
How successful do you believe the implementation of the SWMP was:

Estimate of cost savings achieved: £

Action(s) planned for next project:

Appendix C - Extracts from the Cambridgeshire and Peterborough Minerals & Waste Site Specific Proposals DPD

8.1.20 W1T - Northstowe (Area of Search) (W8AQ)



Map 56

Summary

Site Name	Northstowe (Area of Search)
Description of Proposed Use	Temporary Inert Waste Recycling
Area	425 ha
Approximate Timescale	Throughout the construction phases of the settlement
District	South Cambridgeshire
Parish	Longstanton
Grid Ref	TL 449 665

Site Characteristics
• This area reflects the boundaries of the new settlement of Northstowe to the north of Cambridge • Northstowe is on part of a former airfield site and is there is a current planning application being considered for the new town • The site is located in a landscape of high archaeological potential • The Area of Search overlaps two conservation areas (Longstanton to the west and Westwick to the south east)

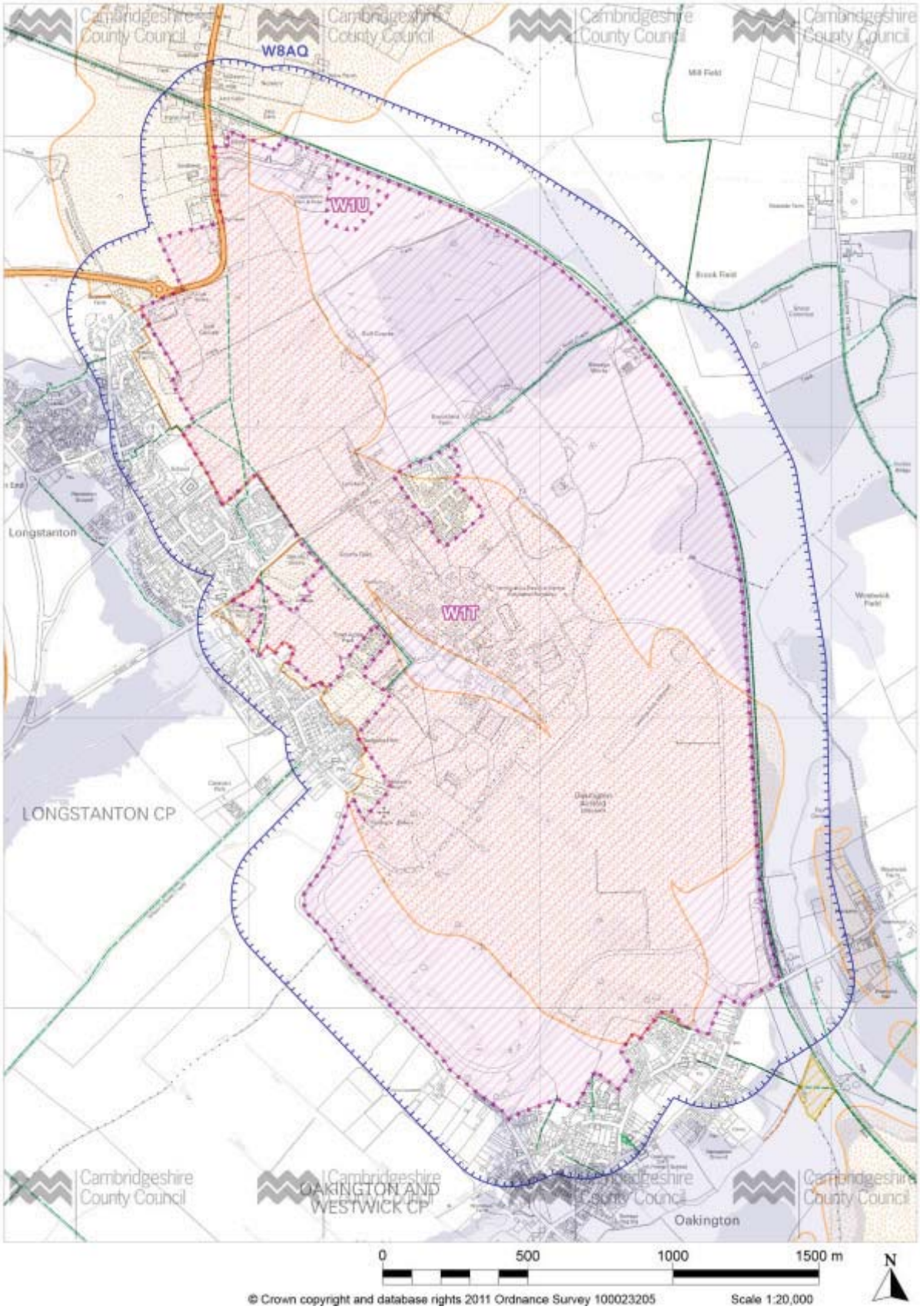
Implementation Issues

8.41 Detailed assessment of development impacts and mitigation techniques will be required as part of any individual development proposal through the planning process.

8.42 The following will need to be addressed within a planning application:

- Location of the site or sites should not be close to sensitive receptors e.g. residential properties
- Rights of Way matters including potential diversion compensation for existing Rights of Way which may be adversely affected
- Consideration of any historic features / environment
- Good access to road network (internal and external)
- Noise and dust mitigation will be required
- The Area of Search overlaps the Longstanton and Westwick Conservation Areas. Care should be taken to avoid any negative impact on the character and setting of these conservation areas and a number of listed buildings including highly graded churches
- Any planning application will need to address the archaeological significance of the site through assessment and evaluation.

8.1.21 W1U - Northstowe Area 2, Northstowe (Area of Search) (W8AQ)



Map 57

Summary

Site Name	Northstowe Area 2 (Area of Search)
Description of Proposed Use	Waste Recycling and Recovery - a Household Recycling Centre
Area	2.3 ha
Approximate Timescale	Expected to come on stream around 2010/2011
District	South Cambridgeshire
Parish	Longstanton
Grid Ref	TL 403 678

Site Characteristics
• Within a new settlement proposed to the north of Cambridge • Northstowe is on part of a former airfield site and this area of search is within the employment sector identified as part of the current masterplanning for the new town • Archaeologically sensitive site • Site is close to the Cambridge Green Belt

Implementation Issues

8.43 Detailed assessment of development impacts and mitigation techniques will be required as part of any individual development proposal through the planning process.

8.44 The following will need to be addressed within a planning application:

- Household Recycling Centres will be required to be of a high standard in their design and operation in order to minimise any adverse effects on the environment or local community
- Appropriate mitigation measures including pollution control, dust / odour suppression
- Prior to the submission of a planning application consideration will need to be given to the best location for the Household Recycling Centre within the area of search, having regard to the need to be accessible by new and existing communities, and compatibility with adjoining uses.
- Some landscaping / mitigation works will be required, the extent of these will be dependant on the final location of the Household Recycling Centre.
- Car and lorry movements will need to be segregated which is a matter for detailed design
- Any planning application will need to address the archaeological significance of the site through assessment and evaluation.