

Grandhome Waste Strategy March 2013



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1.0 Introduction

- 1.1 The purpose of this Waste Strategy is to ensure that construction and operational waste will be managed responsibly and sustainably during all development phases of the proposed Grandhome development, to the north west of Aberdeen. This Strategy encourages the minimisation of construction waste as far as is practicable. However, where the generation of construction waste is unavoidable, waste will be appropriately managed in the most sustainable manner available. A key objective of this Waste Strategy is that where possible, all waste will be managed in accordance with the Waste Hierarchy.
- 1.2 This Waste Strategy sets out the developer's requirements in terms of the management of the waste generated from the works and addresses key waste management issues associated with the development proposals.
- 1.3 The Strategy identifies the waste types which are likely to be generated during the construction works and sets out how the developer intends to manage these wastes in the context of the currently available waste management infrastructure.
- 1.4 The Strategy sets out the responsibilities of the generic roles within a site management team and those of a Principal Contractor and its sub-contractors in delivering the Strategy. To ensure procedures are being followed and the desired results are being achieved, waste management training and communications between the Principal Contractor and sub-contractors using the most appropriate means are identified along with waste monitoring procedures. These will be put in place by the Principal Contractor and formally reviewed at the end of the construction phase.
- 1.5 Of specific relevance to the construction phase of the proposed development is the development of a Site Waste Management Plan (SWMP). Within Scotland, there is a SWMP voluntary code of practice, which aims to minimise construction and demolition waste at source on construction sites. Whilst the production of a SWMP is not a statutory requirement, there are clear and demonstrable benefits to having a SWMP in place at the commencement of a construction project. Furthermore, Aberdeen City Council's Sustainable Building Code requires all developments to be covered by a SWMP that seeks to identify opportunities for recycling and landfill diversion. As such it is proposed that a SWMP will be produced for each phase of development at Grandhome, the first Plan will be produced for the Phase 1 neighbourhood. The SWMP will be based on the framework set out



within Section 4 of this document and will follow the principles of the Waste Hierarchy and the Proximity Principle, which are discussed further in this Waste Strategy.

- 1.6 This Waste Strategy also addresses the sustainable management of operational waste including opportunities for minimising waste together with the correct storage, removal and management of all waste streams. The range of waste types predicted to arise from the operational phase of Grandhome, once the development is occupied is also discussed, and as far as possible, proposals are made with respect to the collection and management of these wastes. However, it is acknowledged that Aberdeen City Council has awarded SITA North East a 25 year contract which runs until 2025 and therefore any detailed waste management proposals would require discussion and agreement between local landowners, Aberdeen City Council and SITA North East together with other waste contractors, as appropriate.

Legal Requirements

- 1.7 Compliance with environmental and waste legislation is a minimum requirement when managing waste and will be a primary objective of the Grandhome development project. There is substantial regulation of waste in the United Kingdom that is applicable to all wastes generated by the construction and operation of the proposed development. The key (waste related) legislation of relevance to this project is the Environmental Protection Act 1990, Environment Act 1995, Environmental Protection (Duty of Care) Regulations 1991, Landfill (Scotland) Regulations 2003 (as amended), Special Waste Regulations 1996 (as amended), Waste Management Licensing (Scotland) Regulations 2011, and The Waste (Scotland) Regulations 2012.

- 1.8 Consequently, the key waste management compliance issues from this Waste Strategy are as follows:

- Waste categories are identified and coded as per the European Waste Catalogue (EWC) codes;
- Waste is segregated appropriately;
- Waste is transported appropriately and safely;
- Waste is handled and stored safely;
- Waste is disposed of responsibly;
- Waste is minimised and recycled wherever possible;
- Waste data is recorded, collated and monitored regularly; and
- Waste contractor performance is monitored regularly.



- 1.9 The construction phase of Grandhome has the potential to generate a range of waste materials including special wastes. Although some of the quantities may be small, the environmental impact can be significant if the wastes are not handled correctly, as are the legal penalties.
- 1.10 Correct environmental management of wastes is a key objective of this Strategy. In addition the developer has a legal duty of care to ensure safe and proper management of all waste materials (including on-site contractors' wastes). The developer will therefore ensure that all wastes are handled and disposed of in accordance with current legislation and best practice from the time waste is generated, through to its final disposal/treatment.

Project Details

- 1.11 Promoted by the Grandhome Trust, Grandhome would comprise a new sustainable urban community which would be developed in phases. Up to 7,000 residential dwellings are proposed within a series of walkable traditional neighbourhoods with shops, schools, green spaces and workplaces. The proposed development would be constructed over a period of approximately 30 to 40 years.



2.0 Waste Policy and Strategy

National Waste Policy

- 2.1 Scottish Planning Policy (SPP) published in February 2010 is the statement of the Scottish Government's policy on nationally important land use planning matters. A review of the SPP was announced in Scottish Parliament in September 2012 and new document publication is due in June 2014. However, in the meantime, the SPP remains a current document.
- 2.2 SPP advises that the Scottish Government has adopted a goal of achieving 'zero waste'. This means eliminating the unnecessary use of raw materials, the inclusion of sustainable design, resource efficiency and waste prevention, reusing products wherever possible, and recovering value from products when they reach the end of their lives.
- 2.3 The SPP acknowledges that these targets will require a reduction in the amount of waste produced and a significant increase in waste management infrastructure. Additional capacity will also be required to treat commercial and industrial waste. The SPP document identifies that '*composting facilities, transfer stations, material recycling facilities and anaerobic digestion, mechanical, biological and thermal treatment plants are the main types of installation that are required.*'
- 2.4 At a national level, there is a requirement for further waste management capacity within Scotland to enable the Government's waste targets to be achieved. Targets for municipal waste have been set by both the Scottish Government and European Union Directives. These targets include the need to recycle or reuse 70% of construction and demolition (C&D) waste by 2020; recycle, reuse or compost 70% of all waste by 2025 and dispose of less than 5% of all waste by 2025.
- 2.5 Construction waste will be the responsibility of the client/developer in terms of its on-site management and off-site treatment/disposal. It is already likely that over 70% of this waste stream can be recycled with only 5% going to landfill (often 90% of construction waste can be recycled), and it is even more likely that this target will be achievable by 2020 when better treatment technologies and methods of recovering waste will have been developed. Thus, for construction phase wastes, the relevant targets are highly likely to be achievable.
- 2.6 For municipal wastes (i.e. household and commercial), the targets set out in the Zero Waste Plan are indeed challenging, even though the timescales for achieving them are some way off. The proposed residential and commercial development would include appropriate and well designed



waste storage facilities to facilitate and encourage the segregation and recycling of municipal wastes for local businesses and householders. Waste storage provision will be designed in accordance with Aberdeen City Council's guidance and where appropriate other best practice guidance. Such measures would contribute towards the challenging national and European targets set out above.

Local Waste Policy

- 2.7 The Aberdeen Development Plan currently comprises the Aberdeen Local Development Plan 2012 and the Aberdeen City and Shire Structure Plan 2009. Aberdeen Local Development Plan (ALDP) (2012) was adopted in February 2012 and provides a land use framework until 2030. It sets out how the Council aims to work towards its vision for Aberdeen and shows which land is being allocated to meet the city's development needs over the next 10 – 20 years. It also sets out the planning policies which will be applied in promoting the sustainable growth of the city over this period.
- 2.8 With respect to waste, The ALDP states that *'in order to reduce the amount of waste going to landfill, we are likely to require the development of a number of new waste infrastructure facilities. Composting, transfer stations, materials recycling facilities, anaerobic digestion, mechanical and biological and thermal treatment plants represent the principal options to meet future needs.'*
- 2.9 Policy R6 of the ALDP – Waste Management Requirements for New Development, states:
- 'Housing development should have sufficient space for the storage of residual, recyclable and compostable wastes. Flatted developments will require communal facilities that allow for the separate storage and collection of these materials. Recycling facilities should be provided in all new superstores or large supermarkets and in other developments where appropriate. Details of storage facilities and means of collection must be included as part of any planning application for development which would generate waste.'*
- 2.10 Aberdeen City and Shire Structure Plan (August 2009) was prepared jointly by Aberdeen City and Aberdeenshire Councils. It represents a shared vision for the future of the area, focussing on the issues which can best be dealt with by these two council's working together. The Plan covers the period up to 2030.



2.11 The Structure Plan states that the area produces around 1 million tonne of waste each year, of which 285,000 tonnes is municipal waste and 136,000 tonnes is biodegradable. Currently most of this waste is disposed of in landfill sites. The Plan acknowledges the importance of making significant changes during the first half of the Plan period. Measures are required to ensure that waste is managed efficiently in accordance with the Waste Hierarchy whilst taking the Proximity Principle into account. This will mean reviewing how we manage waste at the earliest stages in development proposals and providing new infrastructure to meet the targets.

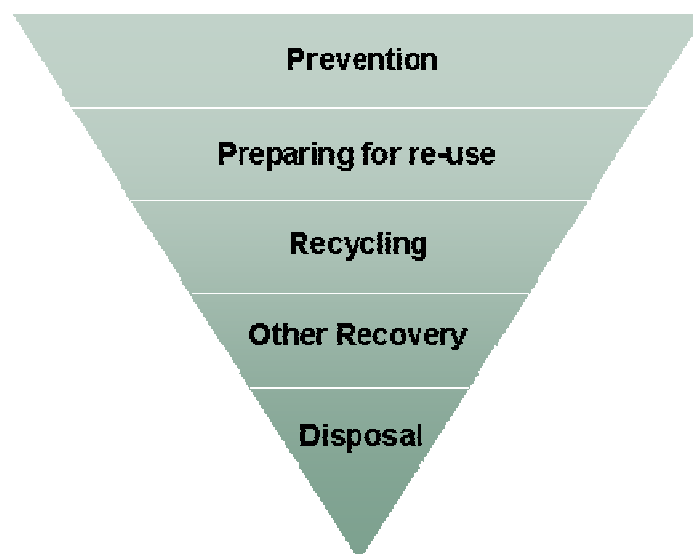
Aberdeen City Council Waste Strategy

2.12 The 'Aberdeen City Waste Strategy – Engaging With Stakeholders' (April 2010) provides a statement on the future requirements for waste management policy, infrastructure and services for the city. It covers the period from 2010 to 2025.

2.13 The Strategy sets out the current collection arrangements within the city and provides information on sources and quantities of waste generated within Aberdeen (2007/08), within the context of North East Scotland and Scotland as a whole. However, this information has now been superseded by SEPA's 'Waste Sites and Capacity Report for 2010'.

2.14 One of the six key themes of the Aberdeen City Waste Strategy is the need to manage waste in accordance with the Waste Hierarchy, which is illustrated in Figure 1 below.

Figure 1: The Waste Hierarchy





2.15 The principal objective of the Waste Hierarchy is to minimise the amount of waste produced by adopting economy and efficiency in raw materials usage. Where this is not possible, the aim is to deal with the waste produced in a reasonable and sustainable way, with the least preferred option being disposal to landfill. The overall objective being to minimise the environmental impact both in the short term via prevention of pollution and in the long term, in terms of resource and land usage.



3.0 Construction Waste Management

Identification of Waste Types

- 3.1 The identification of significant generic construction and demolition activities and associated waste types produced from these activities is detailed in Appendix 1 – Waste Data Sheet. The Waste Data Sheet includes the best practice management options that are currently available for each waste stream produced i.e. reuse, recycle and disposal, etc.
- 3.2 The principal construction waste types which may be produced on site during all construction phases of the Grandhome development are:

Table 1: Predicted Construction Waste Types and Management Options

Waste Type	Preferred Waste Management Option
Organic (green) waste (from site clearance)	Composting or energy recovery/biomass
Metal (from cladding, windows, pipes, etc)	Recycle
Non hazardous soils (from earthworks)	Preparation for reuse
Hazardous soils	Treat then re-use or landfill disposal
Plastic (from pipes etc)	Recycle or energy recovery
Concrete	Preparation for reuse
Bricks (excess and damaged)	Preparation for reuse (excess) or recycle (damaged)
Timber Pallets	Return to supplier
Timber (off cuts etc)	Preparation for reuse (on-site) or recycle (excess materials)
Cement	Recycle
Insulation	Recycle
Glass (damaged glazing etc)	Recycle
Paints, solvents	Recycle
Ceramics (excess, damaged or broken tiles etc)	Preparation for reuse (excess) or recycle (damaged)



Waste Management Options

Waste Prevention

- 3.3 There is considerable potential for the reduction of construction waste at source and this should be exploited wherever possible. The key opportunities are likely to be in the design of the buildings (for example the use of pre-fabricated structural materials, structural repetition etc), the careful use of raw materials and the avoidance of damage to building and raw materials whilst stored on site. Further opportunities are described in the Waste Minimisation Statement which is included in Appendix 2. Such design measures will be identified within the Site Waste Management Plan, produced for each phase of development.
- 3.4 Sustainable procurement of building materials can result in minimisation of waste by selecting products and materials with reduced levels of packaging, reusable rather than single use products and specifying durable materials. The avoidance of construction waste can also be achieved through the use of supplier take back schemes, particularly with respect to packaging waste. Outer and inner packaging and timber pallets can often be returned to a supplier with prior arrangement.
- 3.5 Single stream plasterboard waste attracts a significant cost premium when landfilled so measures to reduce or minimise plasterboard waste should secure cost as well as environmental benefits. Many plasterboard producers offer take-back schemes, but plasterboard waste can be reduced by specifying designs to standard board sizes and ensuring boards are protected during storage to avoid waste through damage.

Reuse and Preparation for Re-use

- 3.6 In order to manage waste in accordance with the waste hierarchy, it will be essential to maximise the re-use rates of generated wastes as far as is practicable and economically viable. This will necessitate an understanding of how the materials may be re-used and segregating the materials in such a way whereby they may be reused without further processing. For example, if materials, such as timber, are segregated at an early stage before they are placed in mixed waste containers, this will minimise the potential for damage and increase the likelihood that they may be reused for higher grade uses.
- 3.7 Any reduction in material wastage or increase in reuse, recycling or other types of waste recovery should result in cost savings. Particular attention will be paid to recoverable materials, which if reused could substitute for primary materials. The reuse of soils generated from earthworks and



site clearance within the site final contours and landscaping is a key opportunity. Timber is also a valuable resource which, depending on its condition, can be easily reused (e.g. for temporary shuttering).

Recycle/Compost

- 3.8 Where the re-use of waste is not practicable it will be sent for recycling or energy recovery in preference to landfill disposal. In order to ensure that waste recovery is maximised, the appointed Principal Contractor will only use approved waste management sub-contractors who can demonstrate a high level of waste recovery (i.e. more than 70% municipal waste or 80% construction waste recovery rates).
- 3.9 Where possible inert materials such as soils, concrete (crushed) and brick will be reused on-site for backfilling of excavations or final grading of the completed site. Where this is not possible, or there is no requirement for excess materials, waste will be removed from the site and recycled into aggregate using an appropriately permitted off-site aggregate crushing plant.
- 3.10 It is likely that significant quantities of organic (green) waste will be generated during the earthworks phase of the Grandhome construction works. Organic (green) waste arising from vegetation clearance will be taken from the site and composted at an appropriately licensed facility (such as Keenan Recycling Limited’s composting facility at New Deer) or sent for energy recovery. No organic waste will be sent to landfill or treated onsite by burning.
- 3.11 Damaged glass and glazing panels will be recycled. All used timber products and off cuts will be reused where possible, but poor quality timber will be sent to a reprocessor for off-site recycling (or energy recovery as biomass). All metals will be sent to a reprocessor for recycling.

Energy Recovery

- 3.12 For many residual wastes (i.e. those which cannot be recycled), energy recovery should be considered in preference to landfill disposal. Due to the typical nature of construction wastes, it is anticipated that the fraction of this waste stream which is suitable for energy recovery will be relatively small. Notwithstanding this, a current lack of availability of energy recovery facilities means that waste would have to be transported long distances to licensed facilities. However, the future availability of energy recovery facilities may make this a viable management option for suitable construction waste materials.



Landfill disposal

- 3.13 Disposal to landfill is the least preferred option in terms of the Waste Hierarchy and should only be considered as a waste management method when all other options have been explored. Landfill is currently the accepted management method for certain special wastes, such as asbestos.
- 3.14 Where special construction wastes are generated, such as paint, paint containers, mastic or oils, these will be removed from site and treated in accordance with legislative requirements.
- 3.15 Only waste which has been subjected to pre-treatment may be landfilled. Treatment means a physical, thermal, biological or chemical process, including sorting, that changes the characteristics of the waste in order to reduce its volume or hazardous nature, facilitate its handling or enhance recovery. The treatment requirement however, does not apply to inert wastes for which treatment is not technically feasible. Waste which is destined for landfill must therefore be pre-treated. For many waste types, this is commonly undertaken by a waste operator by sorting at a waste transfer station or Materials Recycling Facility.



4.0 Site Waste Management Plans

Background

- 4.1 Under the Site Waste Management Plan voluntary code of practice, a SWMP will be prepared for each of the development phases prior to the commencement of construction works.
- 4.2 Each SWMP will follow a framework similar to that proposed by Waste Resources Action Programme (WRAP) as these are tried and tested formats which have proven to provide significant benefit to developers and contractors both in Scotland and in England.
- 4.3 SWMPs aim to address two key issues:
1. improve 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 re-used, recycled or recovered in other ways before disposal options are explored; and
 2. reduce 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.

Content

- 4.4 The SWMP will include:
- Project specific information relating to the site and proposed development;
 - Project specific responsibilities for managing the various aspects of the SWMP;
 - Details of any measures taken before the SWMP was drafted to minimise the quantity of waste produced on site, such as pre-fabrication;
 - Identification of what materials are likely to be generated and including forecasts of quantities for each waste stream;
 - Identification of proposed waste management options for each waste stream;



- Identification of any potential special wastes, e.g. asbestos from demolition works, paints, oils etc;
- Procedures for correct handling and storage of wastes, including compliance with the Duty of Care requirements;
- Procedures for communicating the SWMP to others (Principal Contractors, sub-contractors, waste management contractors, temporary staff);
- Procedures for ensuring that the SWMP is regularly monitored and updated; and
- Procedures for providing a final Plan review.

Waste Measurement

4.5 All construction waste movements leaving the Grandhome development must be measured and recorded within the SWMP. Data will typically comprise the quantity of waste (by weight or volume), the types of waste collected (using European Waste Catalogue codes), recycling rates and waste carrier details. Data recorded can also include:

- Segregation rates;
- Reuse on and off site;
- Wastage rates of different materials;
- Costs and cost savings;
- Sources of wastes;
- Waste profile over the course of the project;
- Levels of damaged materials;
- Materials removed from the site to landfill; and
- Quantity of imported recycled materials.



- 4.6 Contractors may use their own recording system or industry recognised systems such as the Building Research Establishment (BRE) SMARTWaste monitoring and measurement programme. The SMARTWaste programme is recommended for recording site waste data. To access the programme go to www.smartwaste.co.uk and enter login and password details or create a new account if a new user. There is a charge for using this service.
- 4.7 Details of the material types and quantities contained within each skip will be recorded, along with the waste management option chosen (reuse, recycle and disposal) for the waste. The SMARTWaste software will enable the monitoring of waste levels, through analysis of the required data input over the duration of the project, against industry standards. However, measurement and monitoring can also be undertaken manually, with the data reviewed over time.

Waste Monitoring

- 4.8 The monitoring of construction waste (using the BRE SMARTWaste tool or undertaking manually) will be summarised on a monthly basis and reported on site and through an electronic information exchange which shares information with the developer and sub-contractors. The aim of this being to increase awareness of the waste production on site and to form the basis of a review of project activities, identifying where improvements have been/should be made.
- 4.9 Waste data derived from weighbridge tickets and Waste Transfer Notes will be provided directly by the waste management subcontractor to the Environmental Manager (Principal Contractor). These will be used for comparison and verification against data reported from the site and will be monitored by the Site Manager (Principal Contractor) who will liaise with the Environmental Manager as required. The Principal Contractor will be required to attend regular meetings with the developer to monitor and discuss the operational effectiveness of Waste Strategy, the SWMP and waste management practices, as well as to plan for any changes in project circumstances.

Waste and Performance Review

- 4.10 Throughout the project the Environmental Manager (Principal Contractor) will review the performance of all parties which are involved in waste management on the Grandhome site. The results of audits and inspections, waste data and the outcome of incidents or complaints will all feed into the regular reviews. The results of these reviews will be communicated to the site team and where appropriate, the senior management team (developer and Principal Contractor).



- 4.11 At the end of each phase of the Grandhome development, a final waste management review will be carried out which reviews waste performance and identifies any significant issues arising from that phase of the development, together with any 'lessons learnt'. In order to ensure continual improvement, these issues will be discussed during the review including, where appropriate, corrective and preventative measures proposed for subsequent development phases.
- 4.12 The results of these reviews, together with any outcomes, will be recorded and retained within the SWMP.

Roles and Responsibilities

- 4.13 The correct management of waste throughout the construction phase will be essential in ensuring that statutory legal requirements are met, that high environmental standards are maintained, and that waste is managed sustainably and in accordance with this Waste Strategy.
- 4.14 This Section describes the various roles within the construction team (i.e. Client, Principal Contractor, Waste Management (or Logistics) Contractor, Trades (Sub) Contractors) which are likely to have responsibility for managing waste during the construction phase of the Grandhome community. It is not currently possible to definitively identify these roles and the information in this Section is therefore indicative at this stage. However, once a Principal Contractor has been appointed, the names of the nominated persons with responsibility for site waste management should be displayed in the site offices and recorded in the Site Waste Management Plan. These details should be updated and maintained regularly by the Project Manager to reflect the specific site requirements or changes in nominated persons. Exact roles and job titles may vary depending on the contractor appointments made and one individual may undertake the duties of more than one role, for example the Site Manager and Environmental Manager may be the same individual.
- 4.15 Responsibility for waste management during the construction works is usually assigned to either the Principal (main) Contractor or the waste/logistics contractor. In terms of general waste management on site, the Principal Contractor's responsibilities would include, but not be limited to, the following:
 - Provide an area for a secure waste compound where segregated materials for (on-site or off-site) reuse or recycling can be safely stored;



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- Monitor the general site conditions in terms of waste management. Ensure the trade contractors keep their work areas safe and tidy; and
- Where there have been large volumes of waste generated (from improper storage, damage or other incident), investigate further and carry out a review in order to avoid a recurrence.

4.16 The **Waste Contractor's/ Logistics Contractor's** responsibilities will include but not be limited to the following:

- Supply and management of roll-on roll-off containers, skips, wheeled bins, weighbridge systems and labour at the site's waste compound;
- Management of the waste compound;
- Ensure correct segregation of wastes at the waste compound and on site;
- Manage and monitor waste streams and quantities and ensure maximum reuse and recycling performance;
- Maintain legal compliance (including the maintenance of records in accordance with Duty of Care);
- Respond to waste incidents on site; and
- Report information on waste production and recycling quantities on a weekly and monthly basis.

4.17 The **trade contractor's** responsibilities will include but not be limited to the following:

- Each trade contractor is responsible for maintaining a safe and tidy work area; and
- Each trade contractor is required to engage in material segregation on site.

4.18 At the tender stage, all potential **trade contractors** will be required to demonstrate the following:

- That steps will be taken to minimise waste from materials brought onto site. Plasterboard, pallets, plastic wrapping and cardboard will be taken back to the product manufacturer via take back schemes;
- How pre-fabricated materials are maximised within the scope of their work; and



- The expected waste quantities for each material stream to be identified, including special waste.

Communication and Training

- 4.19 The SWMP will set out how key waste issues will be communicated to on-site staff and how staff training will be delivered.
- 4.20 Education on general waste management issues, such as the importance of waste segregation, waste storage, handling etc, will primarily be delivered to staff through the site induction process. Specific awareness training on the contents and requirements of the Waste Strategy and the SWMP will be delivered to key staff, such as site management and foremen, via an awareness briefing by the Principal Contractor but it would be disseminated to all operatives via Toolbox talks or staff meetings. The Site Manager will be responsible for ensuring that all staff are competent to carry out their duties, or where necessary, arrange for further training to be undertaken.
- 4.21 Internal communication, progress updates and feedback on the waste management performance of the project would be provided by regular staff meetings or team briefings. The dissemination of waste management information would be the responsibility of the Environmental Manager and topics for discussion might include;
- A discussion of the findings of inspections and a review of waste management performance;
 - Any significant or re-occurring non-compliances, complaints or waste related incidents, including corrective and preventative action taken;
 - The co-ordination of short term planning for forthcoming activities; and
 - Any relevant environmental information and the dissemination of best practice.
- 4.22 It is hoped that these values can be transferred from the first phase of the development project to subsequent phases of the Grandhome development, thereby promoting the adoption of sustainable waste management practices on a wider scale.



Duty of Care Requirements

- 4.23 All construction waste leaving Grandhome will be handled and transported by a registered waste carrier, in full compliance with the duty of care requirements and all other relevant environmental legislation (see section 1.7). All waste leaving the site will be taken to appropriately licensed waste management facilities in compliance with the Waste Management Licensing (Scotland) Regulations 2011. This requirement is absolute, regardless of whether the waste management site is being used to transfer the waste to an onward destination or the site is a final destination for waste treatment, recycling, recovery or disposal.
- 4.24 During the construction phase, the Principal Contractor and all waste sub-contractors will ensure that where possible and/or practicable, legally compliant local waste re-processing, treatment or disposal sites are used in order to accord with the Proximity Principle and to minimise the potential for adverse effects of transporting waste materials long distances on the public highway.
- 4.25 Duty of Care documentation (e.g. waste transfer notes and consignment notes) for all waste collections from the construction site will be checked by the Site Manager and a copy will be retained by the Environmental Manager (Principal Contractor).
- 4.26 From September 2013, it has also been a requirement for a declaration to be signed on the Waste Transfer Note, to confirm that the waste has been managed in accordance with the Waste Hierarchy.



5.0 Construction Waste Storage, Handling and Segregation

5.1 This Section describes the requirements for construction waste storage, handling and segregation in order to demonstrate that throughout the construction phase of the Grandhome development, waste will be stored, handled and segregated safely and in full accordance with legislation and industry best practice.

Storage

5.2 All materials that are brought onto the site will be allocated space so they may be properly stored on an even surface and protected from adverse weather conditions. Stored materials should ideally be located in a dedicated storage area that is routinely kept clean and tidy in line with good housekeeping measures (thereby preventing slips and trips from poorly stored materials). Where possible 'just in time' delivery measures will be implemented on site in order to prevent damage from poor storage and over handling of materials.

5.3 All hazardous materials (including special wastes) will be kept safe and secure in dedicated (United Nations approved) storage receptacles of an appropriate design. All oil storage arrangements will fulfil the Oil Storage Regulations and will implement SEPA's 'Above Ground Oil Storage Tanks' Pollution Prevention Guidance 2: 2004 in order to ensure best practice is applied. SEPA will be consulted where queries exist regarding the legal or regulatory requirements for the storage of hazardous materials.

5.4 All skips and waste containers will be provided by and managed by the waste management contractor. Skips and containers should be labelled (according to waste type) and if possible colour coded in order to aid segregation. Waste stream colour coding has been identified by the construction industry as an integral part in raising waste awareness, separating waste at source, reducing the amount of construction waste sent to landfill, and providing cost savings to construction companies.

5.5 The accepted colour coding scheme is as follows:

- Gypsum - White;
- Inert – Grey;
- Mixed – Black;



- Metal – Blue;
- Wood – Green;
- Packaging – Brown; and
- Special – Orange.

5.6 Each trade contractor would be responsible for maintaining a clean and tidy work area with the prompt removal of waste and other debris. All waste containers should be stored in designated areas and away from thoroughfares and surface water drains.

Handling

5.7 Manual handling of wastes will be minimised as far as is practicable. The manual sorting of waste containers or the movement of waste from one container to another will be actively discouraged, unless the appropriate Personal Protective Equipment (PPE) is used.

Segregation

5.8 In general terms, segregation aids and improves recovery rates. In practical terms, the level of recovery varies between projects and is dependent on waste that is:

- Produced in sufficient quantities to make the operating costs of the recovery practice economically attractive;
- Easily segregated on site;
- Significantly higher in value as a segregated waste than as a mixed waste; and
- Produced on a site where local reprocessing options for those waste streams are readily available.

5.9 There are a number of measures which can encourage and improve segregation of different wastes types on a construction site. The establishment of a waste management compound or zone with sufficient space for a number of recycling/recovery skips is an important first step. However, where there is a lack of space on site to achieve segregation, it is important to;



- Work closely with the waste management contractor to ensure that the mixed waste containers are sorted for recycling at a waste facility;
- Use smaller, portable bins at the work face; and
- Empty containers on a regular basis to prevent overfilling, a lack of space and/or possible contamination of waste streams.

5.10 Labelling containers and the provision of adequate signage has been proven to increase participation in segregating wastes. Furthermore the use of a colour coding system can improve segregation of wastes. 'Waste Aware Construction' provides a nationally agreed colour scheme (see Section 5.5) and standardised poster design (which are freely available through their website as web based editable PDFs) for simple and effective communication in promoting and easing streaming and segregation of construction waste at source. The editable posters are available at <http://www.wasteawareconstruction.com>.

5.11 Before embarking on the segregation of different waste streams, it is advisable to discuss suitable options for separation with the appointed waste management contractor which collects the waste from site. This will establish how the waste should be sorted, stored and collected from site. Once this has been established, the labels and/or colour can be assigned to each waste container to ensure the correct material is placed inside.

5.12 The location of skips can influence participation in the segregation of different materials. Containers will be located within safe and easy access of work areas and it will be ensured that operatives do not have to walk long distances to the skips/containers.

5.13 The full compliance of all site operatives with the rules for segregating wastes will prevent the risk of cross contamination between waste streams. It is necessary to enforce the segregation scheme using appropriate personnel and monitoring. For example, this may involve a designated member of staff (such as a 'Waste Champion' or the Site Manager) auditing skips and other segregation containers on a regular basis to assess and monitor whether segregation is occurring and whether or not sub-contractors are co-operating. This will identify if problems exist.



6.0 Municipal Waste Management

- 6.1 Upon completion of each development phase, the new Grandhome community will produce waste based on their range of daily activities. This will include household waste, commercial (retail, agricultural, waste from schools, etc) together with healthcare type waste. These types of wastes are generally termed 'municipal wastes' i.e. those wastes which are collected by or on behalf of the local authority.
- 6.2 Responsibility for the collection of household waste produced by residents of the proposed Grandhome development lies with Aberdeen City Council. In 2000 the Council awarded a 25 year contract to SITA North East to collect and manage household wastes from Aberdeen. The Council currently provides a waste collection service for commercial customers, however the majority of this waste stream is collected and managed by private waste contractors.
- 6.3 All parties involved in the management of these waste streams, from the point of production to final disposal, have a responsibility to manage waste appropriately and in accordance with the Duty of Care. This means that the appropriate documentation must be completed when transferring waste to another party and measures must be taken to ensure that such parties are authorised to accept and transport the waste.

Identification of Waste Types

Household Waste

- 6.4 The principal household waste types which are considered likely to be produced following the completion of each phase of the Grandhome are:

**Table 2: Predicted Municipal Waste Types and Management Options**

Waste Type	Preferred Waste Management Option
Mixed, general household waste (residual waste)	Energy recovery (following final sorting)
Plastic (bottles, packaging etc)	Recycle
Glass (bottles, jars, damaged glassware)	Recycle
Metal Waste (tins)	Recycle
Foil (packaging)	Recycle
Food Wastes (cooked and uncooked)	Composting, energy recovery (anaerobic digestion, gasification, etc)
Paper waste	Re-use, recycle
Cardboard waste	Re-use, recycle
Textiles (including shoes, linen, clothing)	Re-use, recycle
Wood	Re-use, recycle
Electrical waste	Reuse, recycle
Garden waste	Compost
Batteries	Recycle
Special waste (oils, PC monitors)	Recycle, energy recovery, landfill
Bulky waste (furniture, white goods etc)	Re-use, recycle

6.5 Information on waste compositions for municipal waste within Aberdeen and the wider region are not currently available. However, based on an analysis carried out in 2009/10 of the composition of household waste within England, it is considered that the likely composition of household waste from Grandhome will be similar to that listed below:

- Food waste – 21%;
- Garden waste – 18%;
- Waste electrical and electronic equipment, household hazardous and fines – 2%;
- Paper and card – 22%;
- Plastics – 9%;
- Textiles – 5%;
- Other combustibles – 6%;
- Non combustibles – 3%;
- Nappies and other sanitary – 3%;
- Glass – 8%; and



- Metals – 3%.

Commercial and Industrial Waste

6.6 In 2010, commercial and industrial (C&I) waste produced in Scotland amounted to approximately 6.5 million tonnes, of which 72% was commercial and 28% was industrial. The latest data shows that C&I waste quantities fell by 1.14 million tonnes (15%) between 2006 and 2010. The majority of the reduction being attributed to industrial waste which fell by 0.92 million tonnes over the period.

6.7 Typical waste composition data for C&I waste in Scotland is not readily available. However, based on waste data from DEFRA/Environment Agency, a typical breakdown of C&I waste is likely to comprise the following general categories:

- Mixed wastes - 25%;
- Non-metallic wastes (paper and card, plastic, wood, glass and textiles) - 24%;
- Mineral wastes (soils, sand, stone etc) - 19%;
- Chemical waste – 11%;
- Animal and vegetable wastes – 8%;
- Metallic wastes – 5%;
- Healthcare wastes – 4%;
- Common sludges – 2%; and
- Discarded equipment (batteries, end of life vehicles, WEEE) – 2%.

(Source: Defra, Environment Agency)

6.8 The commercial and industrial waste types which will be produced during the operational phase of Grandhome will depend on the type and final mix of commercial and industrial development within the community. It is unlikely that significant quantities of wastes such as chemicals or minerals will arise from the community and the proportions of the individual waste streams may vary significantly from those detailed above. However, it is predicted that a range of wastes, similar to



those above, will arise from the development, which will require appropriate management in accordance with the Waste Hierarchy.

Waste Management Options

Waste Prevention

- 6.9 Local residents will be encouraged to actively reduce waste through education and awareness schemes supported by Aberdeen City Council. The Council's website includes a link to provide residents with information on waste minimisation initiatives, including using real nappies and to Aberdeen Forward's website, a charity that initiates and supports environmental and recycling projects. The charity provides advice to parents on reusable nappies and similar schemes aimed at reducing quantities of household waste.
- 6.10 Local businesses within the community can also be supported in terms of minimising their commercial waste, either via Aberdeen City Council or via organisations such as WRAP or Envirowise. Envirowise, for example, offers sector-specific guidance documents relating to waste minimisation initiatives, many of which are available to download free of charge.

Reuse

- 6.11 Aberdeen Forward (<http://www.aberdeenforward.org/>) provides information on local reuse and recycling programmes which promote the reuse of waste materials.
- 6.12 Waste exchange schemes can also offer opportunities for re-using materials or goods. Information on available schemes is often advertised on the internet. Schemes can range from large, formal schemes to smaller, community-scale schemes. Typically waste exchange schemes cater for construction or building type materials, offering an opportunity to donate or receive surplus goods or materials. However Creative Waste Exchange, set up by Aberdeen Forward, facilitates the reuse of office furniture, office accessories, craft materials and stationery (i.e. those materials not normally accepted by regular charity shops.)
- 6.13 An informal community-scale scheme could be developed within Grandhome, which could cater for goods such as electrical or electronic equipment, clothes, baby equipment, books, household goods etc. A community website, notice board within the local centres or newsletter could provide a useful source of information on goods/materials required or those available for sale/donation. Such



schemes provide a useful opportunity to reuse materials which would otherwise be disposed of or recycled at licensed waste management facilities.

- 6.14 The Aberdeen City Waste Strategy 2010-2025 states that: *'In addition to contributing to lobbying efforts to ensure that products are designed for reuse at a national and international level, Aberdeen City Council will continue to support reuse projects within the city and seek out new opportunities to expand reuse. Where sufficient space is available, future Recycling Centres in the city will be designed with a reuse/resale area. The Council will seek to support community-based reuse activities.'* Future community reuse schemes should seek the support of the Council to provide assistance in terms of promoting awareness within the community and assessing the potential for funding (where appropriate). The future provision of reuse/resale areas within HWRCs will also provide an important opportunity for the community in terms of reusing household waste.

Recycle/Compost

- 6.15 The Council's waste collection scheme within the Grandhome community will ensure that recycling and composting rates are maximised. The Council currently offers a source segregated kerbside recycling service for municipal waste and is actively pursuing opportunities to provide new and enhanced waste management infrastructure to manage Aberdeen's municipal waste.
- 6.16 It is proposed that arrangements for recyclate collection within Aberdeen City Council will also be adopted within the new community. The kerbside waste collection service currently provides a 44 litre black kerbside box for recyclables, which enables householders to recycle a wide range of materials including glass, plastic bottles, cans and foil. Paper and card is collected separately in a white sack.
- 6.17 Recyclable waste is currently collected fortnightly by SITA North East and sent for sorting and bulking up at Sclattie Quarry Materials Recycling Facility, located approximately 1km to the west of Grandhome.
- 6.18 A co-mingled recycling scheme is proposed and is being discussed with SITA North East. A 240 litre wheeled bin would be provided to households as part of the co-mingled scheme, enabling residents to recycle a wide range of dry recyclable materials.



- 6.19 In addition to the regular kerbside collection of recyclable and non-recyclable waste, the community will have the use of local Household Waste Recycling Centres (HWRCs). These provide a 'bring' site where local residents can take their waste for recovery and/or appropriate disposal as necessary. HWRCs facilitate the segregation of waste into a number of different streams, which enables waste recovery to be maximised. The HWRCs are capable of accepting a wide range of waste types, thereby expanding the range of wastes which can be recycled by kerbside collection alone (e.g. fluorescent tubes, Waste Electrical and Electronic Equipment (WEEE), bulky waste etc). HWRCs within the city are operated by Aberdeen City Council and are located at Greenbank Crescent in East Tullos, Pitmedden Road in Dyce, Perwinnes Moss on Scotstown Road and at Sc lattie Civic Amenity Site on Bankhead Avenue. A further HWRC is proposed at Grove Nursery on Hazlehead Avenue in the west of the city.
- 6.20 Supplementary waste recycling points (or mini 'bring' sites) would be provided within the proposed Grandhome community. These would provide recycling collection points for a small number of waste materials, such as glass, paper, textiles/shoes, plastic bottles etc. These can be located in car parks or at designated roadside locations and enable local residents to conveniently bring waste for recycling, without the need to make a special trip to the HWRC. These facilities can complement other recycling initiatives and increase recycling rates. Typically these facilities would be sited above ground on a solid base. However Aberdeen City Council has expressed a preference for such containers to be designed as underground facilities, thereby improving their visual appearance, reducing potential amenity issues and providing greater above ground space.
- 6.21 Green waste and food waste is collected from a proportion of city residents using brown 240 litre wheeled bins. Bins are currently collected fortnightly with waste being taken to Sc lattie Quarry MRF where it is bulked up and sent for composting at Keenan Recycling Limited's facility at New Deer, Turriff. Composting initiatives would be promoted across the Grandhome community. Aberdeen City Council provides information on home composting. Via its website, information is available on home composting and home digesting units, and although units are not sold by the Council, advice is provided on the suitability of different types of units. Depending on the type of unit purchased, the home composter/digester may accept some or all of the following waste types:
- Bread;
 - Coffee grounds & tea bags/ leaves;
 - Dairy products;
 - Egg Shells (small amounts);



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- Fruit and vegetable waste;
- Meat scraps, cooked and uncooked food;
- Pet waste; and
- Garden waste.

6.22 Future arrangements and provision for waste recycling within Aberdeen are likely to change within the short to medium term. The Aberdeen City Council Waste Strategy states that:

'The next step to achieving the outcome of higher recycling is to develop a major Materials Recycling Facility that is capable of handling comingled recyclables. This will enable a move to providing a wheeled bin collection of recyclables for at least 70% of city householders. In addition, by collecting comingled recyclables, provision for a full range of recycling to the remaining 30% of households in multi-occupancy properties will be significantly easier to provide.' and *'Aberdeen City Council will develop a minimum of two new Recycling Centres in Aberdeen capable of achieving very high levels of recycling. Such sites have dual benefit in increasing recycling rates and by achieving behaviour change through visiting sites where almost all waste can be segregated and put to beneficial use.'*

6.23 The development of additional recycling infrastructure by Aberdeen City Council within the city will assist in the provision of a comprehensive recycling service to householders and will encourage the Grandhome community to participate in the Council's recycling scheme. Maximising recycling performance will become increasingly important if the Council is to meet both European and central and local Government's recycling and landfill diversion targets.

Energy from Waste and Landfill Disposal

6.24 Alongside increasing performance in recycling and composting, Aberdeen City Council in 2012 was responsible for the treatment and disposal of over 67,000 tonnes of residual (non-recyclable) waste. Currently no household waste is sent for energy recovery, due to a lack of available facilities. However an energy from waste proposal has been accepted in principle and is anticipated to reach the planning application stage within the next 3-5 years. It is therefore considered that residual waste arising from Grandhome may potentially be sent for energy recovery in the near future. As Aberdeen City Council is a keen supporter of Zero Waste Scotland, this will be an important aspect of ensuring that zero waste is sent to landfill by 2020.



6.25 The City Council's Waste Strategy addresses the issue of energy recovery and whilst not specific about the likely preferred options, it states that all available technologies will be considered including incineration, gasification and pyrolysis of waste.



7.0 Municipal Waste Storage, Handling and Segregation

7.1 This Section describes the requirements for waste storage, handling and segregation for municipal wastes to ensure that waste is managed in accordance with relevant environmental legislation and industry best practice. The information provided in this Section combines generic best practice guidance with more prescriptive proposals based on actual current waste management services within Aberdeen City Council (e.g. arrangements for kerbside collections). It is intended that this Section demonstrates that throughout the life of the Grandhome community, waste will be stored, handled and segregated safely and in full accordance with legislation and industry best practice.

Storage and Handling

7.2 The residential properties within the proposed development will be provided with waste collection containers which are consistent with the kerbside collection arrangements within other areas of Aberdeen. Current arrangements are as follows:

- *Black recyclables box (44 litre):*

- Food and drinks cans;
- Glass bottles and jars;
- Plastic bottles;
- Foil; and
- Aerosols.

(blue 240 litre wheeled bins will be provided when a co-mingled recycling service is introduced to householders)

- *White sack:*

- Paper and card.

- *Black wheeled bin (240 litre):*

- Non-recyclable residual waste.

- *Brown wheeled bin (240 litre):*

- Garden and food waste (not all residents currently receive this service).



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- 7.3 Residents are responsible for segregating their waste according to the above scheme and placing the containers in a designated accessible area for collection by 0700 on the designated day.
- 7.4 Aberdeen City Council's Supplementary Planning Guidance document 'Waste Management Requirements in New Development' (March 2012) sets out the Council's requirements with respect to the provision of sufficient space for the storage and collection of waste within new developments. The document confirms that houses with gardens will require sufficient external space for three 240 litre wheeled bins and that the minimum storage area should be 1m x 2m per house. The storage area will be hard surfaced and if covered should include a minimum height clearance of 2m. Storage areas will be screened from public view but readily accessible to householders. There should also be space in private or shared gardens for home composting.
- 7.5 Houses without gardens should have sufficient space for the storage of a 25 litre food waste container and two 240 litre wheeled bins. Where 'food waste only' services are provided (i.e. for houses without gardens), sufficient internal space will be required for a 7 litre kitchen caddy and a 25 litre food bin which sits under the sink.
- 7.6 If direct access to premises is limited (e.g. for multi-occupancy buildings such as flats and some terraced houses) these premises will require external waste storage areas for either individual or communal waste bins. Adequate provision will be made for external hard standing for communal bins for residual, recyclable and compostable wastes. Such storage areas should be sited within easy reach for householders (ideally between main points of access and car parking/main pedestrian routes) and refuse collection vehicles. They should be close to a public road, have no steps and incorporate drop kerbs where appropriate.
- 7.7 Aberdeen City Council has a strong preference for waste containers to be presented as underground facilities, both for multi-occupancy properties and on-street waste collection systems (e.g. bring sites). This type of containment system provides benefits in terms of removing the need for a number of large capacity containers on the street or in residential waste compounds. This can be particularly beneficial in public access areas where there is a high level of pedestrian footfall. The development of a new community presents a good opportunity to introduce such waste collection systems and the developer would ensure that due consideration is given to the incorporation of such systems at the detailed design stage.



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- 7.8 The developer will need to agree with Aberdeen City Council and SITA North East, the responsibility for cleansing of communal waste storage and collection areas, as well as the means of escape and fire fighting arrangements. The waste collection points would require restricted access and would need to be secure to prevent vandalism.
- 7.9 The Council also recommends that home composting areas are incorporated into all new housing developments and that compost bins are provided. The supplementary guidance on waste storage provision specifies that a 2m x 1m area should be provided for composting with a suitable sized composter and adequate drainage considered. It states that normally a 330 litre compost bin is adequate for most small to medium sized gardens. Aberdeen City Council provides compost bins and digesters for a charge, however Zero Waste Scotland and a number of retailers also provide a range of bins.
- 7.10 The Masterplan for Grandhome proposes a mix of residential and commercial developments, including schools, district and local centres. Commercial premises and schools will be required to accommodate containers for both recyclable and non-recyclable wastes which would be provided by SITA North East or an appointed private waste contractor. Where possible, consideration will be given in the first instance to the inclusion of underground waste containers.
- 7.11 In most circumstances, commercial developments will be serviced by private collection providers which are contracted by individual occupiers, though in serviced commercial premises shared collections may be arranged. This is likely to lead to a number of different waste service providers operating within the community making it difficult for the developer to foresee the required storage provision for waste containers as well as the particular vehicle types and sizes that will serve the development. The Council provides guidance on waste storage requirements for commercial premises and consideration will need to be given at the detailed design stage to ensure that the Council's requirements are met with respect to waste storage. Where possible, consideration will be given in the first instance to the inclusion of underground waste containers, particularly for larger commercial premises where a single waste contractor would take responsibility for waste collection.
- 7.12 Access routes into the development will need to provide appropriate access for refuse collection vehicles (RCVs) in order to facilitate the routine collection of municipal waste from both residential and commercial premises.



7.13 Best practice guidance, such as Association of Directors of Environment, Economy Planning and Transport (ADEPT) 'Making Space for Waste – Designing Waste Management in New Developments (June 2010)' provides specific guidance for developers and local authorities with respect to waste storage and collection arrangements within new developments. Such documents would be considered at the detailed design stage and would supplement the guidance provided by Aberdeen City Council.

Segregation

7.14 Current household waste collection arrangements within Aberdeen City Council provide for recyclable waste to be separately collected from mixed general waste. Under the current arrangements, household waste arising from Grandhome would be segregated as per the arrangements detailed in Section 7.2. The segregation of household waste will largely be dictated by the waste contractor, and until 2025 this will be SITA North East, Aberdeen City Council's appointed waste contractor. The current waste management, treatment and disposal arrangements facilitate the separate collection of recyclable and organic waste from mixed residual (general) waste and provision for this will be made in terms of the waste containers provided by the Council. Future arrangements may differ slightly depending on the Council's appointed contractor, although such arrangements cannot be anticipated at this time.

7.15 Segregation practices and requirements for commercial premises and local authority run premises (such as schools) will be dictated by the business'/organisation's choice of commercial waste contractor and the contractor's preferred waste management method (e.g. whether they transport waste to a waste transfer station for bulking or a Materials Recycling Facility for sorting or other treatment, etc). Thus, depending on the preferred management method, the contractor may provide a single waste container for a range of mixed recyclables (i.e. co-mingled waste) or a number of separate recycling containers for separate waste streams (i.e. source segregated wastes). In all cases, the specific requirements for segregation should be clearly identified and discussed with the contractor and communicated to employees. This will help to ensure the correct segregation of wastes, thereby maximising the potential for recycling.



Appendices



Appendix 1 – Waste Data Sheet



Grandhome Waste Strategy

Activity and Waste Types	Waste Management Option				
	Reuse	Recycle	Recovery of value (e.g. energy)	Disposal to Waste Management Licence exempt site	Disposal to landfill
Groundwork					
Non-hazardous soil	✓			✓	
Inert waste/rubble	✓	✓			
Organic waste			✓		
Drainage					
Plastic (pipes)		✓			
Metal (cast iron pipes)		✓			
Concrete (manholes)		Return to supplier			
Metal (Manhole covers)		Return to supplier			
Concrete Frame					
Timber (shuttering)	✓	✓	✓ (biomass)		
Concrete (washout)	✓				
Concrete (excess)	✓				
Concrete (hardened)		✓			



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Activity and Waste Types	Waste Management Option				
	Reuse	Recycle	Recovery of value (e.g. energy)	Disposal to Waste Management Licence exempt site	Disposal to landfill
Metal (rebar)		✓			
Brick and Block Work					
Bricks (excess)	✓				
Bricks (damaged)		✓			
Timber (pallets)		Return to supplier			
Cement		✓			
Elevations and Roof					
Plaster/cement (render)		✓			
Insulation		✓			
Cement (cement board)		✓			
Metal (ferrous off-cuts)		✓			
Metal (non ferrous off-cuts)		✓			
Timber (off cuts)		✓	✓ (biomass)		
Inert (stone)	✓				



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Activity and Waste Types	Waste Management Option				
	Reuse	Recycle	Recovery of value (e.g. energy)	Disposal to Waste Management Licence exempt site	Disposal to landfill
Bricks (excess)	✓				
Bricks (damaged)		✓			
Timber (pallets)		Return to supplier			
Inert (damaged glazing)		✓			
Fit Out					
Timber	✓	✓	✓		
Plastics (general)		✓	✓		
Plastic (ducting)		✓	✓		
Plastic (vinyl)		✓	✓		
Hazardous/special (paints, mastic etc)		✓	✓		
Hazardous/special (solvents)		✓			
Metal		✓			
Ceramic (tiles)	✓				



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Activity and Waste Types	Waste Management Option				
	Reuse	Recycle	Recovery of value (e.g. energy)	Disposal to Waste Management Licence exempt site	Disposal to landfill
Inert (stone)	✓				
Plasterboard		Return to supplier			
Insulation (carpet)	✓	✓			
General					
Road sweepings		✓	✓		
Hazardous/special (used spill kits)			✓		✓
Hazardous/special (oily water)		✓	✓		
Timber (pallets)		Return to supplier			
Domestic/site office					
Paper /cardboard	✓	✓			
Canteen oil		✓			
Plastic (cups)		✓			
Cans/glass bottles		✓			



Grandhome Waste Strategy

Activity and Waste Types	Waste Management Option				
	Reuse	Recycle	Recovery of value (e.g. energy)	Disposal to Waste Management Licence exempt site	Disposal to landfill
Printer cartridges/toner	✓	✓			
Food waste (i.e. from canteen)			✓		
Electrical/electronic equipment	✓	✓			
Bulky waste (e.g. furniture)	✓	✓			



Appendix 2 – Waste Minimisation Statement





WASTE MINIMISATION STATEMENT

This Waste Minimisation Statement has been prepared to support the Waste Strategy for the proposed development of the Grandhome new sustainable urban community. It provides details on the strategy and methodology for minimising the production of waste arising as a result of construction works at the development site.

General Waste Management Principles

The generation of all types of waste will be minimised and, where possible, either designed out or reduced by using the 'Waste Hierarchy' principles of waste prevention, preparation for reuse, recycling and energy recovery, with disposal being the least favoured option. Where waste is produced, it will be reused on site in preference to options which require its removal from the site. Only waste which cannot be recovered or used for energy recovery will be sent to landfill. This will help to ensure that the revised Waste Framework Directive target of recycling at least 70% of construction and demolition waste by 2020 is met.

All waste and recyclate leaving the site will be recorded using Waste Transfer Notes in full compliance with environmental legislation. These movements of waste will be monitored by waste type. All waste carriers will have a valid Waste Carriers Registration Certificate. As far as is practicable, local waste management facilities will be selected, in order to comply with the Proximity Principle and to minimise the environmental impact associated with the management of waste.

Any special waste arising from the development will be transferred to a suitably licensed waste management facility, in accordance with the Special Waste Regulations 1996 (as amended). All special waste will be accompanied by a Waste Consignment Note.

Waste Avoidance and Minimisation

The generation of construction waste will, as the first priority, be avoided wherever practicable. This will be evident in the choice of buildings to be erected. Where steel frame portals are specified, preference will be given to pre-fabricated materials so that there is no wastage in off-cuts. Where possible, cladding and fixtures will also be pre-fabricated however where construction standards require materials to be cut or formed, all off-cuts will be taken from site by the contractor and reused or recycled.

Measures will be taken to avoid and minimise waste production as far as possible. These will include:



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- Accurate on-site measurement of raw materials required rather than take-offs from bill of quantities or potentially out of date drawings;
- Incorporation of waste minimisation measures in the design of buildings, such as the use of pre-fabricated structural materials, structural repetition and the selection of durable building materials. Such design measures will be discussed and explored in detail at design team meetings;
- Site inspections carried out to ensure materials that arrive are to the correct specification and to the required quality;
- 'Just-in-time' deliveries to minimise the potential for damage on site;
- Inspection prior to off-loading to ensure that no damaged materials are accepted on site;
- Adequate and secure storage of materials to avoid damage on site;
- Avoidance of double handling and therefore minimising potential for damage in the setting down of materials; and
- Encouraging suppliers to take-back packaging and containers following delivery of goods.

Re-Use Of Waste

Where excess materials (e.g. flooring, timber, metal cladding, glazing etc) are generated on site, these materials will be reused on site wherever possible. Excess concrete or stone may be crushed and used as part of the cut and fill for the access roads, in preference to disposal and also has the potential to produce secondary aggregate based materials, which in line with current Aggregain (WRAP) guidance can be used in structures such as gabions. As far as possible, soils, overburden or other inert materials arising from excavating and site preparation works will be reused on-site for landscaping or backfilling purposes, to avoid the need to transport waste materials off-site.

Any waste generated on site will be stored appropriately and if possible waste streams will be segregated to minimise contamination and to enable maximum recovery. Examples of this would include ferrous and non ferrous metals, damaged or broken pipework, plastic packaging and wooden pallets. In the case of plastic



packaging and wooden pallets, these items will in the first instance be taken back by or returned to the company/courier delivering the shipped materials for reuse. Where this is not possible, the packaging will be recycled. Any special or liquid wastes generated on site (empty paint/solvent cans, mastic sealant etc) will be taken from site by the contractor or subcontractor responsible and taken to an authorised treatment facility for disposal.

Appropriate Use of Materials

In accordance with good practice, the developer and the Principal Contractor will ensure that the importation of materials for use in construction or maintenance will be correctly assessed to avoid surplus materials being ordered.

Any construction materials will be appropriately stored to prevent damage or deterioration that renders them unusable for their proposed use. This will include ordering materials at the appropriate time to minimise storage times on site and also in providing secure storage areas to prevent damage. In addition to this, any deliveries of materials that are damaged or incomplete will be returned to the supplier.



Appendix 3 – Explanatory Notes and Definitions



The Waste Hierarchy includes prevention, preparing for re-use, recycling, other recovery and disposal. DEFRA guidance document 'Guidance on applying the Waste Hierarchy' (2011) provides the following examples for the different stages of the hierarchy.

Waste Prevention:

Using less material in design and manufacture, keeping products for longer (e.g. re-use), using less hazardous materials.

Preparation For Reuse:

Checking, cleaning, repairing, and refurbishing whole items or spare parts.

Recycling:

Turning waste into a new substance or product. Includes composting if it meets the quality protocol.

Other Recovery:

Includes anaerobic digestion, incineration with energy recovery, gasification and pyrolysis which produce energy (fuels, heat and power) and materials from waste; some backfilling.

Disposal:

Landfill and incineration without energy recovery.

Waste Categories

(Taken from Building Research Establishment, Smart Waste categories)

1. Ceramics and bricks - including wall and floor tiles
2. Concrete - including block work and break out material
3. Inert – including topsoil and glass (not in wooden frames)
4. Electrical – waste electronic items such as TV's, computers and cookers etc
5. Furniture – both home and office



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6. Insulation – including lagging
7. Metals – clean scrap metal, not metal reinforcement in concrete
8. Canteen and office waste -general household type waste from site hut
9. Packaging – plastic shrink wrap and cardboard etc
10. Plaster and Cement – including plasterboard
11. Plastics – empty plastic containers (nothing that has contained chemicals)
12. Timber – joist off-cuts, pallets etc
13. Liquids – usually hazardous like fuel and oils etc
14. Hazardous – paint, thinners, glues, fluorescent tubes, batteries etc

Please note. The above is by no means an exhaustive list, they are just examples that have been given to try and help with identification and categorisation of wastes you may find.