

Fitzroy Farm, Highgate London
SITE WASTE MANAGEMENT PLAN

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INTRODUCTION

This Site Waste Management Plan (SWMP) details the approach and actions we will be undertaking to manage the waste produced by this project. The plan will evolve during the development of the project as the scheme moves from design through planning consent determination to main contractor procurement and construction.

This issue of the SWMP forms part of the planning application submission and sets out the procedures and principals to be adopted during the detail design and construction of the scheme. A further issue of the SWMP will be made prior to the start of construction works, which provide further specific details of how these principals are to implemented by the appointed Main Contractor.

The SWMP will provide a record of all the actual waste produced and taken from site during the construction of the works together with details of the nature of the waste, its disposal location and the licensed carrier responsible for its final recycling or disposal.

1.0 PROJECT DETAILS AND TEAM

Client Name	Mr & Mrs D Levy
Client Address	
Project Name	Fitzroy Farm,
Project Address/ Location	Fitzroy Park, London N6 6HT
Floor Area	1173m2
Project Description	Construction of a new two storey residential home comprising 3 reception room, five bedrooms and indoor pool and leisure facilities together with external gardens and landscaping including external works and drainage.

ALL PROJECT TEAM MEMBERS ARE TO SIGN UP TO THE PLAN

Section 6 (5) of the SWMP Regulations 2008 requires both the client and the principal contractor to make the following declaration.

By signing this declaration we acknowledge that will take all reasonable steps to ensure that;

a) 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

b) materials will be handled efficiently and waste managed appropriately.

Client	Daniel Levy
Designers	
Architect	SHH Architects
Structural Engineer	Engineers-HRW
Services Engineer	Slender Winter Partnership
Landscape Architect	Kate Gould Gardens
Principal Contractor	TBA
Identified sub-contractors (Large waste producers)	
Demolition	TBA
Groundworks	TBA
Brickwork	TBA
Partitioning	TBA
Mechanical and Electrical	TBA

2.0 DESIGN DECISIONS RECORD

Fitzroy Farm has been designed with particular attention to selection of materials and methods of construction that produce the minimum amount of waste.

2.1 Demolition

The materials contained within the existing house have been planned to be incorporated within the new building wherever practical. The existing house is to be dismantled to allow the maximum amount of bricks to be reclaimed for re-use in the new structures. Unsuitable bricks, roof tiles and concrete foundation will be crushed on site for re-use as granular material in the new building. The residual demolition materials will be sorted on site with metals and timber being removed for re-cycling, with only unsuitable and non recyclable materials being disposed of the land fill. The design of the new building has been adapted to provide the opportunities for use these reclaimed materials, and in so doing also reduce the volume of construction traffic. Specific examples of this include bricks, crushed unsuitable bricks and roof tiles for granular fill, crushed concrete for structural fill, large section timbers for reuse in the landscape scheme.

2.2 New foundations

The materials arising from the construction of the new building foundations and basement are to be retained on site and reused as part of the new garden landscape, and so provide a direct use for material normally disposed to landfill.

The foundations design also incorporates the use of screw piles in lieu of concrete piles, as these have a very high recycled content as well as further reducing the volume of pile arisings requiring disposal to landfill. The piled ground floor flat slab solution also further reduced the need for excavation and traditional mass concrete footings.

2.3 Bills of Quantities

The project has been fully measured by the quantity surveyor, initially to assist with pricing the works, but this will also help to reduce over ordering and wastage.

2.4 Excavating and Filling

There are opportunities to eliminate waste being sent off site and achieve cost savings through cut and fill optimisation. Analysis was undertaken to find a finished floor level that reduces imported fill and removal from site of surplus material to an absolute minimum.

2.5 In-situ Concrete Mixes

Wherever reasonably practicable, recycled aggregate and cement replacement products are to be adopted.

2.6 Brick/ Block Walling

The building has generally been dimensioned to block dimensions in order to avoid cutting and reduce wastage. The layout of blockwork has been illustrated on the setting out plans with the intention of showing an economical layout of blockwork between returns and openings to reduce the need of cutting. However the contractor is expected to use their experience to minimise blockwork waste and is not bound to the drawn positioning of blocks. Openings, wherever possible, are to blockwork dimensions. The details also take account of the reuse of the reclaimed imperial size bricks.

2.7 Structural Steel Framing

The structure has been designed to allow for flexibility in different occupancy use in order for the building to be adapted in the future and so increase the building's lifespan. The steel frame is relatively easy to deconstruct into re-useable elements and is factory made to computer controlled dimensions to minimise waste.

2.8 Curtain Walling

The curtain walling will be fabricated and generally assembled off site. A detailed design will be submitted by the main contractor and the specialist manufacturer and agreed with the architect prior to fabrication in order to minimise the potential for error.

2.9 Roof Covering

The roof is will incorporated elements of green roof with a sedum mat. The drainage layer is manufactured from 100% recycled HDPE. The filter sheet is manufactured from recycled polypropylene and polyethylene and the substrate has some recycled green waste. The feature standing seam zinc roofs will also incorporate a high percentage of recycled material in the finishes surfacing.

2.11 Partitions

All partitions to the upper storey are lightweight metal stud with plasterboard and can be easily demounted and repositioned to suit occupancy patterns and flexible use.

2.12 Ceilings

Suspended ceilings have predominantly been specified and have been set out on drawings to try to minimise waste in particular by avoiding narrow cut sections of board.

2.13 Windows and Doors

Windows, external doors and internal doors will all be factory made and will be subject to factory quality control and waste management procedures. Windows and doors will be based on a site measure, which will reduce the risk of poor fit and potential wastage.

2.14 External Cladding

The number of external cladding materials has been limited so they can be used more efficiently and help to reduce off cuts.

2.15 Flooring

Waste from carpeting and sheet flooring can be reduced by limiting the number of colours used in the project. The design is based upon a limited pallet of materials comprising natural stone, timber and carpet stone. The natural stone material will be detailed prior to manufacture with individually sized elements cut off site, which will reduce wastage with site cutting limited to closing dimensions. Timber floor area will be dimensioned to suit the modular element sizing. All of these steps will serve to provide a more economic design and through the reduction in wastage.

2.16 Handling and Storage of Recycled and Reused materials

The reuse on site of excavated material from the new building forms a key part of the design strategy where low carbon design, waste reduction and recycling come together to achieve the client's aim of an environmentally responsible building. The recycling of the site won materials does however require careful control to ensure that there is no cross contamination during the site handling, sorting, storing and deposition processes.

The bulk excavation arisings will be deposited directly into their final locations and reconsolidated to avoid the need for storage or the risk of material deterioration, this operation

will be weather sensitive to allow the clay to be compacted at the appropriate moisture content.

The retained demolition materials from the existing building comprise crushed materials, bricks, roof tiles and concrete, together with reclaimed bricks. The bricks will be stacked on pallets to allow their movement around the site, and will need to be relocated while the bulk fill is placed in the tennis court and lawn. Similarly the crushed material will be placed in a temporary bund prior to being used for capping of hardstanding and working areas to the perimeter of the building as indicated on the site layout drawing, with any surplus being used as slab blinding and in formations. The crushed materials will be separated from the subsoil with a geotextile membrane to prevent fines migration into the land drainage network in both the temporary bund and hardstanding areas.

2.17 Groundwater and surface run off

The existing land drainage network will be located prior to the demolition of the existing building, and any necessary temporary or permanent diversions will be installed in order to maintain continuity of sub-surface groundwater flows as recommended in the Hydrogeology report.

New land drains will be installed as part of the bulk fill and re-grading of the site, and these will be designed to maintain the current groundwater flows across the site. Surface run-off from the temporary hardstanding areas will be directed via a temporary settlement tank prior to discharge into the existing land drainage system. Surface water flow from potential sources of contamination such as concrete delivery washout points, mortar silos and plaster mixing baths will be separately contained and will not be discharged into the land drainage system.

3.0 SITE WASTE MANAGEMENT CONTROL

Before the construction phase of the project commences, information will be collected by the Main Contractor on the wastes likely to be produced by the project and the available options for reduction, reuse, recycling and disposal. The details will be entered and recorded in the SWMP in tabular form.

- Section 1 - Predicted Waste Streams and Quantities
- Section 2 - Waste Management Options

All of the above schedules are to be completed as far as is possible by the Main Contractor during the Pre Construction stage prior to commencement on site.

Sub-contractors and Suppliers should be asked at time of enquiry to submit copies of their Waste Carriers Licences, Waste Management Licences and an estimate of their anticipated waste quantities.

4.0 SITE LAYOUT PLAN

A site plan has been developed detailing the following:

- Material storage areas
- Skip and recycling areas
- Materials handling areas

4.1 Handling and Storage of Recycled and Reused materials

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The bulk excavation arisings will be deposited directly into their final locations and reconsolidated to avoid the need for storage or the risk of material deterioration, this operation will be weather sensitive to allow the clay to be compacted at the appropriate moisture content.

The existing stockpiles of topsoil will be used in the first phase of landscape planting to the site perimeter to release these areas for the new building and site working areas.

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The contractor will develop a detailed programme to ensure that the works are sequenced to such that these bulk materials are handled efficiently and without cross contamination that would require disposal off site.

4.2 Groundwater and surface run off

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New land drains will be installed as part of the bulk fill and re-grading of the site, and these will be designed to maintain the current groundwater flows across the site. Surface run-off from the temporary hardstanding areas will be directed via a temporary settlement tank prior to discharge into the existing land drainage system. Surface water flow from potential sources of contamination such as concrete delivery washout points, mortar silos and plaster mixing baths will be separately contained and will not be discharged into the land drainage system.

This plan is subject to verification following the appointment of the Main Contractor, to align with any specific construction methodologies he may wish to adopt.

5.0 SITE WASTE DATA

The Main Contractor's Site Works Manager must ensure that all waste materials leaving site, including those managed by sub-contractors, are recorded in tabular form within the SWMP so that comparison between the forecast and actual waste production can be easily made.

The main contractor will provide regular updates of the SWMP to allow for monitoring of the actual performance against the plan.

Monthly reports produced by Waste Management Contractors should also be kept in this section.

6.0 CERTIFICATES, LICENCES AND PURCHASE ORDERS

Hazardous Waste

Sites producing hazardous waste will need to register with the Environment Agency as a 'Producer' of hazardous waste. The application form and full details are available on the Internet at:

<http://www.environment-agency.gov.uk/subjects/waste/1019330/1217981/1772529/?version=1&lang=e>

The Main Contractor will be responsible for registering the site and maintaining within the SWMP all relevant information as required under the Regulations.

When the site's Hazardous Waste Producer Registration Document is received from the Environment Agency it should be placed in this section of the file. The premises code should be entered onto the contract details sheet at the front of this SWMP.

Waste Carriers

All companies, including sub-contractors, removing waste from site must be licensed waste carriers. The following documents should be obtained and placed in this section:

- Waste Management Contractors Licences
- Waste Carriers Licences
- Demolition and Groundworks Contractors Licences

Waste Management Licences/ Exemptions

Waste Management Licences or exemptions (or PPC permits) should also be obtained for all recycling facilities/ disposal sites to which waste from site is taken. These should be licensed to accept the type of waste being handled.

Copies of final waste site licences should be kept in this section.

Waste Management Checks

All licences should be checked to ensure they are valid and current by logging into to the EA website: <http://www2.environment-agency.gov.uk/epr/search.asp?type=register> and following the steps on Guidance Note GN-EM-02. Evidence should be printed out and kept in this section.

Duty of Care Audits should also be carried out during the project. Any waste contractor removing wastes from site which is considered as high risk (e.g. muck away due to large quantities or hazardous waste) should be followed to ensure they are taking the wastes to the correct waste sites. If possible during visits to waste facilities, checks should be made that wastes are being recycled/ disposed of in accordance with the specified methods.

A Waste Transfer Note must be obtained for every load of waste leaving the site, including groundworker's wastes, demolition waste and contents of septic tanks and wheel washes.

All Waste Transfer Notes must include the relevant 6-digit European Waste Catalogue Code and a description of the wastes. The Transfer Note must also be signed by the carrier's representative and the Main Contractor. Waste Transfer Notes must be kept for 2 years

A Hazardous Waste Consignment Note must be obtained for every load of hazardous waste leaving the site, including asbestos, oil-contaminated wastes and part-full paint cans and mastic tubes. All Hazardous Waste Consignment Notes must be retained for 3 years.

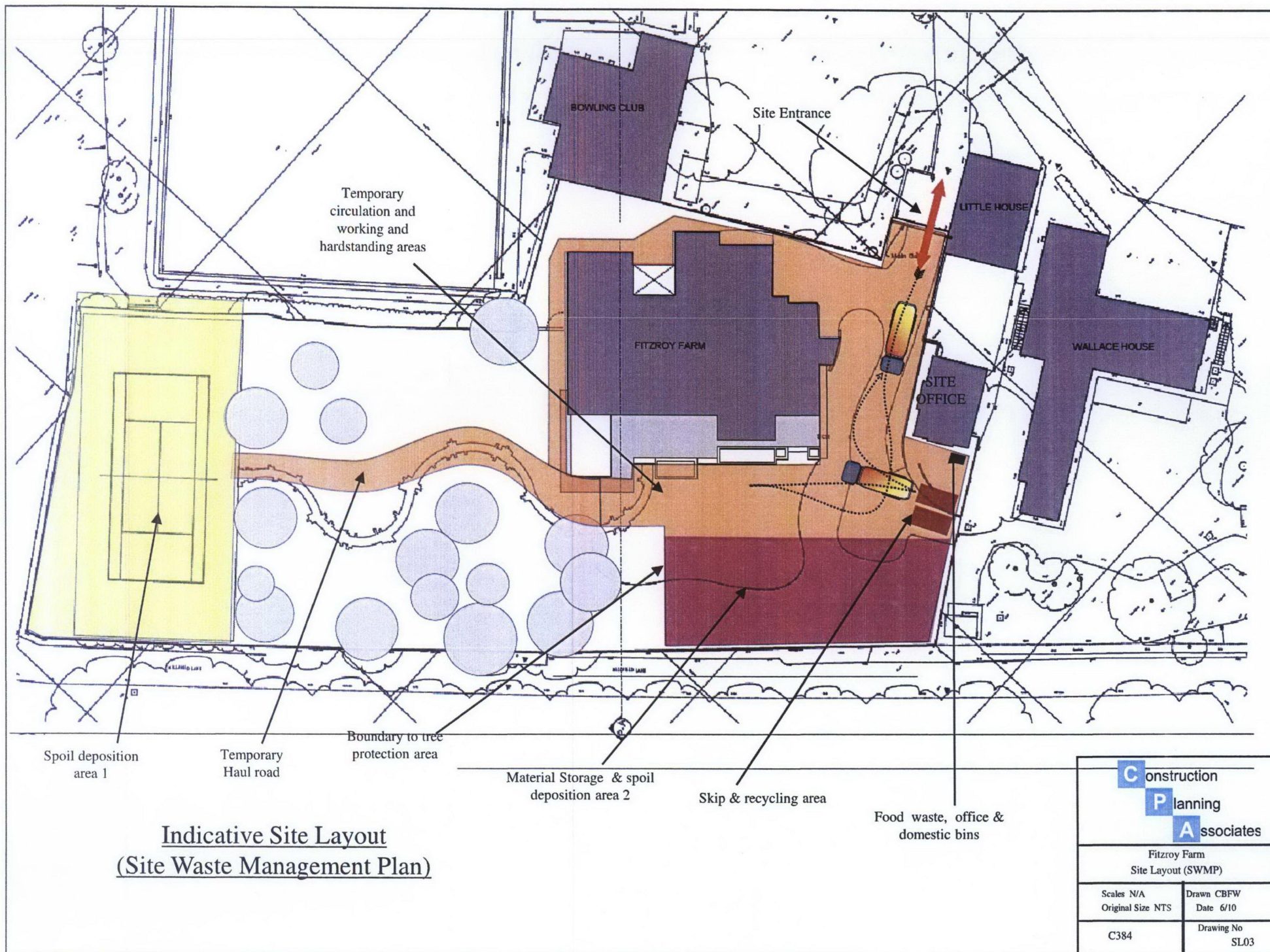
7.0 GLOSSARY OF TERMS AND WASTE DEFINITIONS

Terms

BREEAM	Building Research Establishment Environmental Assessment Method
DTI	Department of Trade and Industry (Now the Department for Business, Enterprise and Regulatory Reform)
EA	Environment Agency
PPC Permit	Pollution Prevention and Control Permit - issued by the Environment Agency to regulate the operations of a business.
SmartSTART	A waste auditing tool that enables waste types to be measured and benchmarked. This tool measures changes in waste reduction and recovery that are put in place on-site, providing information that can be of benefit to your whole organisation.
SWMP	Site Waste Management Plan
WRAP	Waste and Resources Action Programme
WRAP's Recycled Content Toolkit	A tool to help identify the content of recycled material in a new building
WRAP Quality Protocol	A quality management system, which can be used to demonstrate that recycled wastes have become a product and no longer a waste.

Waste Definitions

Ceramics/ Bricks	Bricks, ceramic tiles, clay roof tiles, ceramic toilets and sinks
Electrical Equipment	TVs, fridges, air conditioning units, lamps
Inert	Soils, clays, sand, gravel, natural stone, glass, rubble/ hardcore
Metals	Radiators, metal formwork, acrows, metal sinks, cables and wires, metal bar
Packaging	Cardboard, bubble wrap, wrapping bands, polystyrene, paper, cable drums, pallets
Plastic	Gutters, downpipes, DPC, PVC-U windows and doors, socket boxes
Concrete	Concrete pipes, kerb stones, paving slabs, concrete, solid blocks
Furniture	Tables, chairs, desks, sofas, blinds, carpets
Insulation	Glass fibre, mineral wool, purlboard, breather paper
Office/ canteen	Office and canteen waste, vegetation, sweepings, ad-hoc materials
Plaster/ cement	Plasterboard, render, plaster, cement, fibre cement sheets, mortar
Timber	Plywood, chipboard, noggins, battens, doors and windows, MDF
Liquids and Oils	Hydraulic oil, engine oil, lubricating oil, transmission oil, liquid fuel, cleaning agents, mould oil, interceptor waste
Hazardous Materials	Paint pots, line markers, creosoted timber, asbestos, radioactive waste, bituminous mixtures with coal tar, tarred products, PCB or mercury coated products, fluorescent light tubes



Construction
Planning
Associates

Fitzroy Farm
Site Layout (SWMP)

Scales N/A
Original Size NTS

Drawn CBFW
Date 6/10

C384

Drawing No
SL03