

Site Waste Management Plan

Connell Co-op College

301 Alan Turing Way

Manchester

M11 3BS



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The Purpose of SWMPs

There are three main aims of a SWMP:

- **Improve material 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
- **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.
- **Increase environmental awareness of your workforce and management**, by making workers aware of their responsibilities through including Site Waste Management Plan information in induction training.

Although it is a legal requirement to write and implement a SWMP, the greatest cost savings are likely to be achieved as a result of the consideration of material resource efficiency, which will be a necessary part of the preparation, before the SWMP is drafted.

SWMPs apply to all aspects of construction work including preparatory work such as demolition and excavation. They are required for civil engineering and engineering projects as well as projects involving maintenance, alteration and decoration of existing structures. The installation, maintenance or removal of all related services such as electrical, gas, water, sewage and telecommunications are also subject to this requirement.

For projects between £30,000.00 and £500,000, you should describe in the plan any deviation between the first draft of the SWMP and the final outcome.

Darwin Group will provide to the client during the construction period a detailed analysis confirming the plan is being updated, calculating the difference between proposed waste management and actual performance.

The client is responsible for ensuring that the plan is prepared before construction work begins. For many projects, it will be appropriate for the designer to write the SWMP on behalf of the client, as this will assist in recording any decisions that have been taken at the design stage.

The plan should then be passed onto the principal contractor, who must update it as work progresses, ensure that workers on site are aware of the plan, and co-operate with it. This will include providing suitable site induction, information and training. Contractors will in turn need to engage their employees and sub-contractors to ensure that any waste management objectives in the SWMP are understood and achieved.

Both client and the principal contractor are responsible for reviewing, revising and refining the SWMP as necessary, in particular, to ensure that roles and responsibilities are clear as the project progresses. They must also ensure that adequate security measures are put in place to help avoid waste being disposed of illegally at the site. It is important to remember that responsibility for compliance with the SWMP Regulations rests not solely with an individual but ultimately with the client or principal contractor company. If there is a change of personnel during the course of the project, the details of those responsible for the plan must be kept up-to date.

Design and specification

A range of approaches adopted during the design phase can reduce wastage and make a building more cost effective during both construction and occupation. For example, applying lean and modular designs, selecting standard component sizes and designing for deconstruction are all options, which will result in cost and waste savings, and merit consideration.

Tender specification

Reduce the quantity of waste arising on the construction site by including in tender specifications a requirement for material suppliers to take back any packaging and unused materials. Materials with excessive packaging should be avoided where possible. Thought should be given to the amount of materials needed by decreasing wastage allowances.

On the construction site

Efficient site planning and material storage will minimise the level of wastage through damage and allow unused materials and waste to be segregated and stand a better chance of effective recovery. Aim to recover any unused materials in the highest cost application.

Parties Involved

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“Prepared By”; and sign off by the Client and Principal Contractor

The Client

Prepared by: Cameron Reed
Title: Technical Co-ordinator
Date: 14/12/20

Signed:
Approved:

Distribution: All parties listed above

The Principal Contractor

Approved By: Joseph Baker
Title: Construction Manager
Date: 14/12/20

Signed:

The Client and Principal Contractor will take all reasonable steps to ensure that;

- 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 and the Environmental Protection (Duty of Care) Regulations 1991; and
- Materials will be handled efficiently and waste managed appropriately

Description of the Project

Erection of a single storey teaching block extension at Connell Co-op College, comprising of 10 classrooms and associated ancillary accommodation, including offices, WCs and a staffroom.

The estimated cost of the project is: £2,800,000.000

Hazardous Waste Premise Code: TBC

Expiry Date: TBC

Site Waste Management Plan:

Darwin Group Ltd, on behalf of Connell Co-op College, have prepared this SWMP, information is collected on the wastes likely to be produced by this project and the available options for reduction, re-use, recycling and disposal.

Darwin Group Ltd will nominate someone to act as the environmental co-ordinator for the project and as such, is responsible for instructing workers, overseeing and documenting results of the Site Waste Management Plan.

Site Waste Management Plan Checklist

The policy, design, planning and procurement stages of this checklist should be completed by the design team during the pre-construction phase. The project environmental co-ordinator should review the completed sections and is responsible for the completion of the 'Construction' and 'Post-Construction' sections during and after the project.

Questions to consider:

Policy

Q1: Has the client stipulated any specific waste management or recycling requirements?

A: Volumetric modular construction utilised, modules constructed at DGL factory in Shawbury, near Shrewsbury.

Q2: Is there a requirement to segregate wastes on site for BREEAM credits?

A: BREEAM Very Good targeted, plasterboard and 'non-hazardous' waste segregated on site, other waste segregated off site by sub-contractor.

Q3: Is there a requirement to use recycled materials to gain BREEAM credits?

A: BREEAM credits require use of material suppliers with relevant environmental certification (such as ISO14001:2015). Legal and sustainable timber **always** used by DGL.

Q4: Is WRAP's recycled content tool kit to be used on site?

A: No, not specific to modular construction methods.

Q5: Has waste been designed out of the project through standardisation of components and sizes?

A: Yes, standard designs have been used where possible.

Design Stage

Q6: Has the design been reviewed by specialist suppliers and contractors? (e.g. BG or Lafarge on specification of walls, etc.)

A: Standard details from suppliers used where possible, specialist subcontractors liaised with where appropriate.

Q7: Have demolition audits been specified to plan for re-use and recycling of available materials?

A: No demolition within the development scope of works.

Q8: Does the specification encourage the use of recycled materials?

A: Not specified for by client, typical DGL subcontractors have ISO14001:2015 or similar, typical vinyl used incorporates recycled elements as an example. BREEAM very good has been targeted, hence suppliers for materials will require to have an EPD to confirm sustainable procurement practices.

Q9: Have offsite fabrication and modern methods of construction been considered?

A: Yes, full volumetric construction will be used.

Q10: Has responsibility for producing the initial SWMP been assigned to a responsible individual in the team?

A: Yes

Planning Stage

Q11: Have subcontractors been asked to estimate their anticipated wastage?

A: Waste removal via skips responsibility of DGL for a majority of works, waste allowed for in DGL quotes at between 10-15% of material requirement. At groundworks stage, the groundworks contractor will be responsible for removing their own waste, and will provide DGL with all waste removal tickets **and** diversion from landfill.

Q12: Has a site plan been prepared showing material handling areas and designated areas for skip types and recycling?

A: Waste material skip and material storage will only be located in secure compound, waste segregated by skip supplier, non-hazardous waste will be streamed on site.

Q13: Has a schedule of wastes that may be re-used, recycled or reprocessed been completed?

A: Included in appendix 3

Q14: Have onsite crushers and screens been considered?

A: Scope of project just not justify use

Q15: If processing material on site, have Environment Agency been notified that we wish to make the site exempt from the "Waste Management Regulations 1994 for processing C&D waste under Paragraph 13?"

A: Material not processed on site.

Q16: If there is crushing plant on site, do we have a "Part B Permit" from the Local Authority's Environmental Health Department

A: Not justified by the nature of the project

Q17: Have compactors been considered for packaging?

A: Not justified by the nature of the project

Q18: Have shredders been considered?

A: Not justified by the nature of the project

Q19: Where relevant, has discharge consent been obtained from the EA and or water authority?

A: Not applicable

Q20: Have sub-contractors identified as major waste producers been asked to produce a Waste Management Plan?

A: All contractors who are removing their own waste will be providing a waste management plan.

Procurement Stage

Q21: If sub-contractors are removing their own waste, have they been asked for:

- Their waste carriers license and
- A waste management license for the landfill/ recycling facility they are using prior to letting the order

A: Waste removal via skips responsibility of DGL, waste allowed for in DGL quotes at between 10-15% of material requirement. At groundworks stage, the groundworks contractor will be responsible for removing their own waste, and will provide DGL with all waste removal tickets **and** diversion from landfill.

Q22: Are all sub-contractors tied into our site debris & waste conformance agreement?

A: Not applicable

Q23: Have quantities been checked to avoid over-ordering?

A: Yes, wastage allowed for a 10-15% depending on material

Q24: Have deliveries been checked to avoid double handling?

A: Site managers check materials to ensure that correct and only required items delivered to site as part of commissioning kit.

Q25: Has packaging been omitted where possible?

A: Yes, suppliers requested to limit amount of materials with packaging

Q26: Has a waste champion been appointed?

A: Yes – Site Manager

Construction Stage

Q27: Are all operatives advised of the SWMP at their site induction?

A: Part of site induction involves SWMP, all operatives read and sign document

Q28: Is the SWMP discussed at the sub-contractors monthly site meeting?

A: Where required

Q29: Are containers / skips clearly labelled to avoid confusion?

A: Yes, any other waste categories streamed where appropriate. If specialist subcontractor required then will be instructed.

Q30: Have toolbox talks been planned for all site personnel about waste management on site?

A: Yes, fortnightly minimum. If required, extra toolbox talks will be done.

Q31: Are any checks made that excavation materials / waste is received at the intended site?

A: Checked weekly with groundworkers and via waste transfer notes. Along with directly contacting company named on waste transfer note.

Q32: Who has been nominated to check and control skips and sign tickets?

A: Site Manager

Q33: Are reports regularly produced?

A: Monthly

Q34: Has a final report of use of recycled and secondary materials, waste reduction, segregation, recovery and disposal (with costs and savings identified)?

A: Not yet applicable as not on site

Q35: Have key waste management issues been considered for action at future projects?

A: Not yet into post completion stage, will be considered when at relevant stage.

Instruction & Training

The client to ensure that the design team are given instruction and training on waste management and what control measures should be in place to ensure compliance with the Regulation and Environmental Protection Act.

DGL will provide on site instruction of appropriate separation, handling, recycling, re-use and return methods to be used by all parties at all appropriate stages of the project.

Toolbox talks will be carried out regularly on waste issues and all subcontractors will be expected to attend.

The SWMP will also be mentioned during the site induction process.

Waste Management on Site

Surplus or waste materials arise from either the materials imported to site, or from those generated on site. Imported materials are those which are brought to site for inclusion into the permanent works, whereas generated materials are those which exist on the project, such as topsoil, sub-soil, tree and materials arising from demolition.

However, there are other considerations to waste management, such as waste reduction, segregation of waste, disposal of waste, financial impacts of waste disposal and recording, monitoring, education and reviewing.

This plan outlines the procedures that have been put in place and demonstrates how they benefit the environments, how we can measure the effects and how these procedures and the practices are sustainable.

Waste Minimisation

We have looked at how we can minimise the waste produced, thereby reducing the amount of waste to be removed from the site. We have attempted to forecast the volume of waste likely to be produced and we will review the quantities specified on a quarterly basis. Please refer to **'Forecast Volumes and Benchmarks (m³) of potential waste on site'** for the waste forecast – in the post construction review of this document, table 8.1 will also contain the recorded waste volumes.

We have looked at how we can minimise the waste produced, thereby reducing the amount of waste to be removed from the site. We have attempted to forecast the volume of waste likely to be produced and we will review the quantities specified on a quarterly basis. Please refer to table 8.1,

Where necessary we will review options for the minimisation of hazardous waste, our policy, concerning hazardous waste, is as follows;

- Only use licensed waste carriers
- Ensure waste destinations have a waste management license or appropriate exemption
- Always stream hazardous waste from general waste
- Register site as a hazardous waste producer if required

Any operational sites, which are likely to give rise to any wastes categorised under the Hazardous Waste Regulations 2005, will be registered as a Hazardous Waste Producer with the Environment Agency. All Hazardous Waste will be documented on individual Consignment Notes, copies of which will be retained in the site operational files. Suitable waste disposal contractors will be nominated to remove the waste from site.

Hazardous waste is waste that can be harmful to human health or the environment, and includes, but is not limited to;

- Asbestos
- Lead-acid batteries
- Solvent based inks and paints
- Pesticides
- Oils (with the exception of edible oils), e.g. car oil
- Fluorescent light tubes
- Equipment containing ozone-depleting substances e.g. fridges
- Hazardous packaging waste

To minimise the production of these as a by-product we will;

- Follow the waste hierarchy as closely as feasible within the scope of the development.
- Consider more 'environmentally friendly' products
- Minimise supply of raw materials to prevent overstocking
- Ensure good stock rotation on site (particularly for larger projects) to avoid products becoming out of date, and therefore preventing them becoming waste (adopt a 'first in / first out' inventory policy).
- Labelling waste containers and skips properly to avoid mixing incompatible wastes or contaminating clean materials.
- Segregation of hazardous wastes from general waste to ensure minimal contamination of non-hazardous materials.
- Managed recovery of oil rags or rags contaminated with paints/solvents/tars

Re-use of solvents, such as mineral spirits and paint thinners, as much as practical.

Forecast Volumes and Benchmarks (m³) of Potential Waste on Site

WASTE Category & Types	ENABLING WORKS (including DEMOLITION)		CONSTRUCTION WORKS	
✓	Copy & paste tick from here			
	Tick	Estimated Quantity (m³)	Tick	Estimated Quantity (m³)
Inert Waste				
Aggregates	✓	10	✓	50
Concrete		n/a	✓	15
Tarmac		n/a	✓	12.5
Brick/Blocks		n/a	✓	26
Roof Tiles		n/a		0
Cladding Sheets		n/a	✓	8
Top soil (uncontaminated)		n/a	✓	2
Sub soil (uncontaminated)		n/a	✓	5.5
Bulk excavated (uncontaminated)		n/a	✓	80
Glass		n/a		0.5
Polystyrene		n/a	✓	1.5
Plastics (non-biodegradable)		n/a	✓	30
Other		n/a	✓	5
<i>Sub TOTAL</i>				236
Active/ biodegradable Waste				
Plasterboard		n/a	✓	18
Mixed Metals		n/a	✓	20
Timber		n/a	✓	40
Cardboard		n/a	✓	15
Paper		n/a	✓	15
Biodegradable plastic		n/a	✓	8
Canteen waste		n/a	✓	8
Trees		n/a		12
Vegetation		n/a	✓	4
Other:			✓	
<i>Sub TOTAL</i>				140
Hazardous Waste				
Topsoil (contaminated)		n/a		n/a
Sub soil (contaminated)		n/a		n/a
Asbestos		n/a		n/a
Lead		n/a		n/a
Flammable		n/a		n/a
Toxic		n/a		n/a
Other:				
<i>Sub TOTAL</i>				
<i>TOTAL VOLUMES</i>				

Categorising Waste Required

Waste type	European Waste Catalogue code	Opportunity for recycling/reuse	Method of storage, transportation	Disposal consents & licences	Reporting / monitoring
Excavated material	17 05 04	High	Temp storage muck away lorries	Controlled waste	Transfer note
General mixed building waste	17 09 04	Low	Skip	Controlled waste	Transfer note
Timber	17 02 01	Medium	Skip	Controlled waste	Transfer note
Mixed Metals	17 04 07	Medium	Skip	Controlled waste	Transfer note
Plasterboard	17 08 02	High	Skip	Controlled waste	Transfer note
Mixed packaging	15 01 06	High	Skip	Controlled waste	Transfer note
Biodegradable waste	20 02 01	Medium	Skip	Controlled waste	Transfer note

Contractors, the Design Team and suppliers are encouraged to look at ways to minimise the amount of waste produced at the site. Up to date actions are recorded in the table below:

Action	Responsibility	Date Action Commenced
Sub-structure – when the foundations are being poured that we had other excavated so that any surplus concrete could be utilised as blinding.	Site Manager	
Materials, which arrive on pallets, are unloaded and the pallets are stored neatly, and removed from site once the numbers are sufficient to make collection economical.	Site Manager	
Plasterboard sheets are made to standard sizes to suit the wall heights and to reduce the amounts of offcuts.	Design Team	
Elements pre-assembled	Design Team	
Utilisation of system formwork	Design Team	
Establishing designated material storage areas to avoid damage, promote 'just in time' deliveries to avoid damage prior to installation	Site Manager	
Create separate plasterboard waste stream for off-cuts etc.	Site Manager	
Create separate waste stream for; metals, demolition, and new construction activities	Site Manager	

Segregation

Where practical, all waste will be stored on site in suitable containers, and removed in accordance with best practice requirements; on projects where space is restricted on site – or on-site storage is inappropriate – our waste management contractor will stream the waste offsite.

Good management will require the waste disposal route to be validated through the use of a phone call to the designated site. In normal circumstances this will only be necessary if the integrity of the haulage company becomes doubtful.

Waste streams will be segregated whenever possible to reduce waste and increase re-use of material. Wherever possible waste disposal shall be minimised through good management / housekeeping, and continual review of the design and recycling process.

Recycling and waste bins are to be kept in a separate area in order to avoid cross contamination.

Disposal of Waste

All waste will be removed from site in accordance with UK legislation. The client, design team, and principal contractor shall abide by the Duty of Care Regulations 1991.

All surplus or waste materials fall into three categories for management, these are;

- Re-used
- Recycled
- Landfill

Re-used

If surplus materials can be incorporated into the permanent works, they are classified as materials which may be re-used, if they are surplus to requirements and need to be removed from site, they may be exported and used in their unaltered form for **re-use** elsewhere.

Recycling

If the surplus materials cannot be re-used in its present form, but could be used in a different form, it is sent for **recycling**.

Landfill

If surplus materials cannot be re-used or recycled then they will be sent to **landfill**. Landfill must only be considered once all the other options have been proven unsuitable.

Table for Waste Types & Waste Management Packages

Waste Types	Waste Management Contractor Details	Waste Management Package
Enabling Works (including Demolition)		
1. Concrete	N/A	Recycle / Inert landfill
2. Tarmac	N/A	Recycle / Inert landfill
3. Brick/Blocks	N/A	Recycle
4. Timber	N/A	Recycle / reuse
5. Metals	N/A	Recycle
6. Asbestos	N/A	Controlled Waste
7. Plasterboard	N/A	Recycle
Construction Works		
1. Plasterboard	SelectASkip	Recycle
2. Brick/Blocks	SelectASkip	Recycle / reuse
3. Timber	SelectASkip	Recycle / reuse
4. Cardboard	SelectASkip	Recycle
5. Mortar	SelectASkip	Inert landfill
6. Metals	SelectASkip	Recycle / reuse
7. Paints	SelectASkip	Reuse
8. Bulk Excavated	SelectASkip	Reuse / Recycle

Monitoring

Monthly records will be kept of all materials that come onto site and the volumes of materials being removed from site. Monthly records will also be sought from disposal companies, highlighting the quantity of materials that went to landfill and how much went for recycling / recovery.

DGL will continually review the type of surplus materials being produced and, if required, change the site set up to maximise the re-use or recycling of waste, and minimise waste diverted to landfill.

This plan will be included as an agenda item at the fortnightly subcontractor meetings. In addition, the plan will be communicated to the whole project team (including the client) at the monthly progress meetings. This will include any amendments from the last circulated version.

DGL will visit the waste transfer facilities to ensure that we are effectively discharging our 'duty of care' to the client.

Consents required include:

Hazardous waste notification (all sites will be notified as potentially hazardous waste producers).

Ground Contamination:

Where surface water drains are located within the compound, and are highlighted as being potential transfer routes for contamination, they shall either be temporarily blocked up or emergency drain seals will be stored on site.

Potentially polluting substances will be stored in suitably bunded areas in order to reduce the potential for ground contamination, and therefore, groundwater contamination. If polluting substances penetrate the ground, the ground will be dug up, removed and then replaced with a suitable replacement material. The polluted, excavated material will be segregated from other site waste, and then disposed of according to the legislative requirements. This is in order to prevent redress under the Contaminated Land Regulations 2000 and remove any potential expensive clean up claims.

Absorbent material containing oil digesters will be stored on site for use on minor spillages. If a pollutant can be soaked up before it penetrates the ground it should be.

All diesels should be stored in double skinned mobile bowzers or double skinned diesel tanks. A designated re-fuelling (hard-standing) area will be made available for plant that is over 10 metres from any drains. All diesel / hydrocarbons and other potentially harmful substances not stored within a double skinned bowser will be stored in a suitably bunded area. The bund will comply with Environment Agency recommendations and other relevant UK legislative requirements. When there are a number of drums stored within the bund, the bund will be capable of holding not less than 150% of the one of the drums. Any diesel in a single skinned tank will be placed within a bund that will be impermeable and be capable of holding 110% of the contents stored within it.

Post Completion Analysis – Construction Phase

As built quantities shown in **green** indicate if pre-construction target either met or bettered (less waste than anticipated), any quantities shown in **red** indicate pre-construction target exceeded, and these will be reviewed internally to ensure processes are improved to encourage material efficiency.

WASTE Category & Types	CONSTRUCTION WORKS		CONSTRUCTION WORKS	
✓	Copy & paste tick from here			
	Tick	Estimated Quantity (m³)	Tick	As Built Quantity (m³)
Inert Waste				
Aggregates	✓		✓	
Concrete	✓		✓	
Tarmac	✓		✓	
Brick/Blocks	✓		✓	
Roof Tiles	✓			
Cladding Sheets	✓		✓	
Top soil (uncontaminated)	✓		✓	
Sub soil (uncontaminated)	✓		✓	
Bulk excavated (uncontaminated)	✓		✓	
Glass	✓			
Polystyrene	✓		✓	
Plastics (non-biodegradable)	✓		✓	
Other	✓		✓	
<i>Sub TOTAL</i>				
Active/ biodegradable Waste				
Plasterboard	✓		✓	
Mixed Metals	✓		✓	
Timber	✓		✓	
Cardboard	✓		✓	
Paper	✓		✓	
Biodegradable plastic	✓		✓	
Canteen waste	✓		✓	
Trees	✓			
Vegetation	✓		✓	
Other:			✓	
<i>Sub TOTAL</i>				
Hazardous Waste				
Topsoil (contaminated)	✓			
Sub soil (contaminated)	✓			
Asbestos				
Lead				
Flammable				
Toxic				
Other:				
<i>Sub TOTAL</i>				
<i>TOTAL VOLUMES</i>				

Appendix 1

Site Location Plan

Appendix 2

Principal Contractors (Darwin Group Ltd.) Environmental Certification

C.O.M.S. CERTIFICATED ONLINE MANAGEMENT SYSTEM	
<i>Certificate of Registration</i>	
This document certifies that the Environmental Management Systems of	
Darwin Group Ltd	
Have been independently assessed and accredited by Qualitas Veritas to the following Environmental Management Systems, Standards and guidelines:-	
BS EN ISO 14001:2015	
This approved Environmental Management System is applicable to the following:-	
Sales, Design, Manufacture and Installation of educational buildings across the UK produced at the Shrewsbury facility	
Approval date.....	13/11/2020
Certificate expiry.....	12/11/2021
Certificate number.....	001388
	
On behalf of CDL Group Ltd	
	

Appendix 3

Toolbox Talks

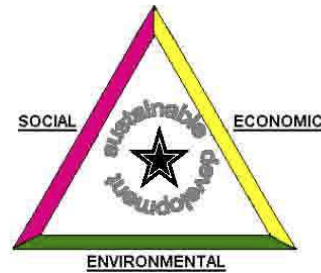
Tool Box Talk – Pg 1

Introduction to Sustainable Development

Introduction

Sustainable development seems to be popping up all over the place but what does it really mean & who does it really affect? The simple answer is that it affects all of us & in its broadest sense is about accepting the responsibility of the impact we have on the world. Obviously, this is not an easy matter, tackling sustainable development means addressing a wide range of issues & finding solutions that bring the 3 aspects of sustainability - environment, social & economic - together.

At the moment there are few things that can claim to be 100% sustainable but we have to be part of the process so we are all heading in the right direction!


What does it mean?

"development which meets the need of the present without compromising the ability of future generations to meet their own needs"

This is given a more action based definition by the UK Government's White Paper, 'A Better Quality of Life', through 4 key objectives.

Social progress which recognises the needs of all people

E.g. Safety, Equal Opportunities, Considerate Contractor

Maintenance of high & stable levels of economic growth

E.g. everyone can share in high living standards and greater job opportunities

Effective protection of the environment

E.g. we should not pollute. We should minimise waste & energy consumption

Prudent use of natural resources

E.g. efficient use of materials, recycle, minimise water and petrol use

Inevitably our activities have negative side effects, realising this may be the first and most important step but taking action is the real challenge. It is important to change our environmental and social impacts into positive influences by tackling problems such as air and water pollution & community involvement, while still delivering value. This has to be accepted into our business culture - not just tacked on at the last minute.



With sustainability we want to:

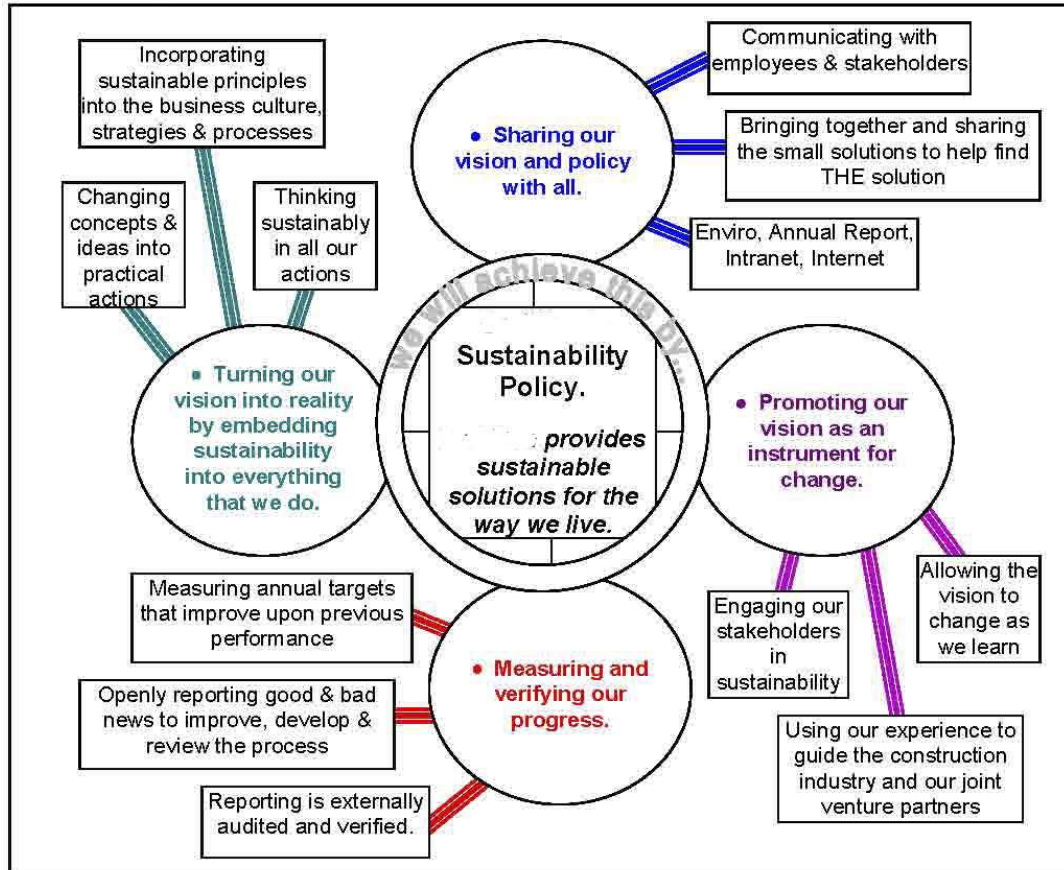


- Combine financial success with high standards of environmental & social performance
- Demonstrate leadership & commitment – internally & externally
- Help provide a framework for action
- Emphasise a principle that we know is right and just

Tool Box Talk – Pg 2



Introduction to Sustainable Development



Policy in Action...

Many projects have already taken on the principles of sustainability. Whether it's in the office, on site or part of the design process there are changes that can be made. Through sharing and learning from these experiences sustainable solutions can be taken into more areas (see Sustainability Report for case studies & advice).

E.g. Princess Margaret Hospital.

From the start the project set an Action Plan including a commitment to set key targets, such as reduce **waste** by 50%.

Energy efficient features were included & **water** conserved, both of which also saved **money**. A **habitat** management plan was formed & strong, open links were created with the local **community**. In this single project it was possible to bring all 3 strands of sustainable development together.



Ideas to start you off...

In the office...

- Switch off lights, close down PC's and printers. Think before you print – do you really need to?



On site...

- Identify and manage environmental impacts, liaise with and involve the local community.



At home...

- Separate & recycle waste, save electricity, try to leave the car at home.



Know Your Waste - WOOD

Large quantities of waste wood ends up rotting in landfill sites every year. There is no need for much of this wood to be sent to landfill. There are a variety of ways it could have been reduced, re-used and recycled. If you handle waste properly in the first place it will save you both time and money, as well as protecting the environment.

RE-USE

Many building materials can be re-used without having to be processed. Before you throw your wood away or send it to be recycled think about the other wood you need on site. Is this 'waste' wood actually useful?

RE-USE

Your waste could be somebody else's raw material!

At www.wastetraders.com you can advertise your waste wood or find something you need that somebody else has advertised.

RECYCLE

There are different ways that your waste wood can be recycled and the main markets for it is:

- **MULCH** - Can be used to prevent soil erosion, enrich soils and help limit water loss and moderate soil temperature change.
- **COMPOSTING AGENT** - Sawdust and chipped wood can be used as bulking agent in soil.
- **CHIPBOARD & MEDIUM DENSITY FIBREBOARD** - These are produced by mixing chipped wood with a resin and applying heat and/or pressure to form a board.



USEFUL CONTACTS

- **PalletLink**. Provides details of companies involved in pallet repair and recycling.
Tel: 01494 558282
Web: www.palletlink.co.uk
- **Caberboard aka CSC Forest Products**. Large chipboard manufacturers who have collection agents UK wide.
Tel: 01786 812921
Contact: George Webb.
- **WasteWatch**. Information on minimising and recycling waste.
Web: www.wastewatch.org.uk

REMEMBER

Whichever way you deal with your waste wood you need a clear Waste Management Plan. It is important that you and any companies that you are dealing with are complying with Waste Legislation.

New Identification codes for Waste

From the 31st of August 2002, the European Waste Catalogue (EWC) will be introduced into waste management law in England and Wales via an amendment to the Duty of Care Regulations. The effect on all waste producers will be the requirement to enter a waste classification code on all waste transfer notes. For example, waste concrete will need to be identified by the code 17 01 01, as well as the traditional written description.

How will this new legal requirement affect the business?

A waste transfer note is required for all removals of waste from your site or project. It is the joint responsibility of the waste producer and the remover of the waste to ensure that a waste transfer note is completed and signed before the waste is removed.

From the 31st of August 2002, a waste transfer note must contain an appropriate six-figure code from the EWC as well as a brief written description of the waste.

The waste producer is the main party responsible for ensuring that the description of the waste and the appropriate code from the EWC is accurate. It is therefore important that you are adequately familiar with the construction related codes.

The chapters likely to be relevant to construction companies are as follows:

Chapter:

03	Wastes from wood processing and the production of panels and furniture etc
08	Wastes from the use of coatings (paints, varnishes and vitreous enamels) adhesives and sealants etc
13	Oil wastes and wastes of liquid fuels
14	Waste organic solvents, refrigerants and propellants
15	Waste packaging; absorbents, wiping cloths, filter materials and protective clothing not otherwise specified
16	Wastes not otherwise specified
17	Construction and demolition wastes (including excavated spoil from contaminated sites)

What is the European Waste Catalogue (EWC)?

The EWC is a list of wastes, which are categorised according to how they are generated. There is a specific chapter on construction and demolition wastes, but this does not necessarily contain all of the waste types that you will ever meet. There is also, a chapter on waste packaging.

There are twenty chapters within the catalogue that list wastes according to their source (i.e. the particular trade or process). Each individual waste listed is identified by a six-figure number.

How do I get a copy of these codes?

The main codes contained in the above mentioned chapters are listed at the end of this Briefing. The categories chosen will not necessarily cover every waste type that you will ever encounter, but it will represent the majority.

Please note: Wastes marked with an asterisk represent hazardous wastes (e.g. asbestos oil). These are waste types that need to be accompanied by a 5-part waste consignment note when removed from site. The use of an ordinary waste transfer note is not sufficient and would be a criminal offence.

Please note: The chapters listed above have been identified for construction related wastes only. This is not an exhaustive list, but has been greatly reduced from the EWC for practical reasons.

How do I use the codes listed on page 2 & 3?

There is a stepped approach to identifying an appropriate code for a waste. Some codes are easy to find, whereas others are a bit more challenging. Care should be taken to follow the instructions given in order to find the right code.

1. Identify the source generating the waste in chapters 03, 08 and 17 and identify the appropriate six digit code. It is suggested that you look at chapter 17 first, followed by 8 and then 3. At this stage, do not consider those codes ending with 99. Note: if you are using the full EWC (and not an adapted version for construction related waste), you should identify the six-digit code from chapters 01 to 12 or 17 to 20.
2. If you cannot find an appropriate code for your waste in these chapters, you should next consider chapters 13, 14 and 15.
3. If none of these waste codes apply, then consider chapter 16 (wastes not otherwise specified in this list).
4. If the waste is not listed in chapter 16 either, return to the chapter that you identified in step 1 as related to the source of the waste and adopt the 99 code used in that list.

New Identification codes for Waste

17	Construction & Demolition wastes (including excavated soil from contaminated sites)	17 05 04	soil and stones other than those mentioned in 17 05 03	08 01 12	waste paint and varnish other than those mentioned in 08 01 11
17 01	Concrete, bricks, tiles & ceramics	17 05 05*	dredging spoil containing DS	08 01 13*	sludges from paint for varnish containing organic solvents or other DS
17 01 01	Concrete	17 05 06	dredging spoil other than those mentioned in 17 05 05	08 01 14	sludges from paint or varnish other than those mentioned in 08 01 13
17 01 02	Bricks	10 05 07*	track ballast containing DS	08 01 15*	aqueous sludges containing paint or varnish containing organic solvents or other DS
17 01 03	Tiles & Ceramics	17 05 08	track ballast other than those mentioned in 17 05 07	08 01 16	aqueous liquid waste containing adhesives or sealants other than those mentioned in 08 04 15
17 01 06*	Mixtures of or separate fractions of concrete, bricks, tiles and ceramics containing dangerous substances (DS)	17 06	insulation materials and asbestos-containing construction materials	08 01 17*	wastes from paint or varnish removal containing organic solvents or other DS
17 01 07	Mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06	17 06 01*	insulation materials containing asbestos	08 01 18	waste from paint or varnish removal other than those mentioned in 08 01 17
17 02	wood, glass and plastic	17 06 03*	other insulation materials consist of or containing DS	08 01 19*	aqueous suspensions containing paint or varnish containing organic solvents or other DS
17 02 01	Wood	17 06 04	insulation materials other than those mentioned in 17 06 01 and 17 06 03	08 01 20	aqueous suspensions containing paint or varnish other than those mentioned in 08 01 19
17 02 02	Glass	17 06 05*	construction materials containing asbestos	08 01 21*	waste paint or varnish remover
17 02 03	Plastic	17 08	gypsum-based construction materials	08 01 99	wastes not otherwise specified
17 02 04*	glass, plastic and wood containing or contaminated with DS	17 08 01*	gypsum-based construction materials contaminated with DS	08 04	wastes from use of adhesives and sealants (including waterproof products)
17 03	bituminous mixtures, coal tar and tarred products	17 08 02	gypsum-based construction materials other than those mentioned in 17 08 01	08 04 09*	waste adhesives and sealants containing organic solvents or other DS
17 03 01*	bituminous mixtures containing coal tar	17 09	other construction and demolition wastes	08 04 10	waste adhesives and sealants containing organic solvents or other DS
17 03 02	bituminous mixtures other than those mentioned in 17 03 01	17 09 01*	construction and demolition wastes containing mercury	08 04 11*	adhesives and sealants sludges containing organic solvents or other DS
17 03 03*	coal and tar and tarred products	17 09 02*	construction and demolition wastes containing PCB (for example, PCB containing resin-based floorings, PCB containing sealed glazing units, PCB containing capacitors)	08 04 12	adhesives and sealants sludges other than those mentioned in 08 04 09
17 04	metals (including their alloys)	17 09 03*	other construction and demolition wastes (including mixed wastes) containing DS	08 04 13*	aqueous sludges containing adhesives or sealants containing organic solvents or other DS
17 04 01	copper, bronze and brass	17 09 04	mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03.	08 04 14	aqueous sludges containing adhesives or sealants other than those mentioned in 08 04 13
17 04 02	aluminium	17 09 04 will possibly be the most used code for construction wastes.		08 04 15*	aqueous liquid waste containing adhesives or sealants containing organic solvents or other DS
17 04 03	lead	08	Wastes from the use of paints, varnishes, vitreous enamels, adhesives and sealants	08 04 16	aqueous liquid waste containing adhesives or sealants other than those mentioned in 08 04 15
17 04 04	zinc	08 01	wastes from removal and use of paint and varnish		
17 04 05	iron and steel	08 01 11*	waste paint and varnish containing organic solvents or other DS		
17 04 06	tin				
17 04 07	mixed metals				
17 04 09*	metal waste contaminated with DS				
17 04 10*	cables containing oil, coal tar and other DS				
17 04 11	cables other than those mentioned in 17 04 10				
17 05	Soil (including excavated soil from contaminated sites), stones and dredging spoil				
17 05 03*	soil and stones contaminated with DS				

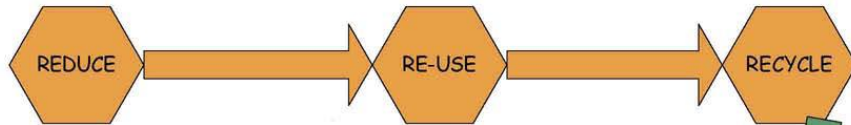
New Identification codes for Waste

08 04 17*	rosin oil	13 02 05*	mineral based non-chlorinated engine, gear and lubricating oils	14 06 03*	other solvents and solvent mixtures
08 04 99	wastes not otherwise specified	13 02 06*	synthetic engine, gear and lubricating oils	14 06 04*	sludges or solid wastes containing halogenated solvents
08 05 01*	waste isocyanates	13 02 07*	readily biodegradable engine gear and lubricating oils	14 06 05*	sludges or solid wastes containing other solvents
03	Wastes from wood processing and the production of panels and furniture	13 02 08*	other engine gear and lubricating oils	15	waste packaging etc.
03 01	wastes from wood processing and the production of panels and furniture	13 03	waste insulating and heat transmission oils	15 01	packaging (including separately collected municipal packaging waste)
03 01 01	waste bark and cork	13 03 01*	insulating or heat transmission oils containing PCBs	15 01 01	paper and cardboard packaging
03 01 04*	sawdust, shavings, cuttings, wood, particle board and veneer containing DS	13 03 06*	mineral based chlorinated insulating and heat transmission oils rather than those mentioned in 03 03 01	15 01 02	plastic packaging
03 01 05	sawdust, shavings, cuttings, wood, particle board and veneer other than those mentioned in 03 01 04	13 03 07*	mineral based non chlorinated insulating and heat transmission oils	15 01 03	wooden packaging
03 01 99	wastes not otherwise specified	13 03 08*	synthetic insulating and heat transmission oils	15 01 04	metallic packaging
03 02	wastes from wood preservation	13 03 09*	readily biodegradable insulating and heat transmission oils	15 01 05	composite packaging
03 02 01*	non-halogenated organic wood preservatives	13 03 10*	other insulating and heat transmission oils	15 01 06	mixed packaging
03 02 02*	organochlorinated wood preservatives	13 05	oil/water separator contents	15 01 07	glass packaging
03 02 03*	organometallic wood preservatives	13 05 01*	solids from grit chambers and oil/water separators	15 01 09	textile packaging
03 02 04*	inorganic wood preservatives	13 05 02*	sludges from oil/water separators	15 01 10*	packaging containing residues of or contaminated by dangerous substances
03 02 05*	other wood preservatives containing DS	13 05 03*	interceptor sludges	15 01 11*	metallic packaging containing a dangerous solid porous matrix (for example asbestos), including empty pressure containers
03 02 99	wood preservatives not otherwise specified	13 05 06*	oil from oil/water separators	15 02	absorbents, filter materials, wiping cloths and protective clothing
13	oil wastes and wastes of liquid fuels	13 05 07*	oily waters from oil/water separators	15 02 02*	absorbents, filter materials, wiping cloths, protective clothing contaminated by DS
13 01	waste hydraulic oils	13 05 08*	mixtures of wastes from grit chambers and oil/water separators	15 02 03	absorbents, filter materials, wiping cloths and protective clothing other than those mentioned in 15 02 02
13 01 01*	hydraulic oils, containing PCBs mentioned in 08 04 15	13 07	wastes of liquid fuels	16	wastes not otherwise specified in the list (remembering this is not the complete list and the full EWC should be referred to before this waste used)
13 01 04*	chlorinated emulsions	13 07 01*	fuel oil and diesel	16 06	batteries and accumulators
13 01 05*	non-chlorinated hydraulic oils	13 07 02*	petrol	16 06 01*	lead batteries
13 01 09*	mineral-based chlorinated hydraulic oils	13 07 03*	other fuels (including mixtures)	16 06 02*	Ni-Cad batteries
13 01 10*	mineral based non-chlorinated hydraulic oils	14	waste organic solvents, refrigerants and propellants	16 06 03*	mercury containing batteries
13 01 11*	synthetic hydraulic oils	14 06	waste organic solvents, refrigerants and foam/aerosol propellants.	16 06 04	alkaline batteries (except 16 06 03)
13 01 12*	readily biodegradable hydraulic oils	14 06 01*	chlorofluorocarbons, HCFC, HFC	16 06 05	other batteries and accumulators
13 01 13*	other hydraulic oils	14 06 02*	other halogenated solvents & solvent mixtures		
13 02	waste engine, gear and lubricating oils				
13 02 04*	mineral based chlorinated engine, gear or lubricating oils				

Environmental Tool Box Talk -Pg1 Waste Management

Waste Management - **YOUR** Legislative Requirement

Please use this in conjunction with the CIS&CP IMS Procedure IS&CP-OPC 7.18 Environmental Waste Management



INACTIVE WASTE - inert substances that are not contaminated such as concrete, rubble and muck away.

ACTIVE WASTE - anything that will decompose in the ground including, timber, paper, domestic waste, asphalt planning's and special waste

SPECIAL WASTE - this must be segregated from other controlled waste. Special waste is hazardous or toxic to humans and or the environment and is dealt with differently from other waste.

Waste must be segregated prior to removal off site to meet the requirements of the Landfill Tax Regulations



CARRIAGE OF WASTE

- A company must be licensed to carry waste - you must
- Obtain, check and keep a copy of the **WASTE CARRIERS LICENCE** which is issued by the Environment Agency /SEPA
- Obtain a schedule of the type of waste they can carry, for example not all carriers are licensed to take special waste

CONSTRUCTION AND HIGHWAY MAINTENANCE ARE LICENCED TO CARRY CONTROLLED WASTE, IT IS THE COMPANY EMPLOYEE RATHER THAN THE VEHICLE THAT IS LICENCED)

DISPOSAL OF WASTE

Landfill sites, recycling facilities and transfer stations must hold a **WASTE MANAGEMENT LICENCE OR AN EXEMPTION** from licensing. Within the licence there will be a schedule of the categories of waste that the facility is licensed to accept.

- Obtain a copy of the Waste Management Licence
 - Obtain a copy of the schedule of the categories of waste they can accept
- IF YOU ARE AT ALL UNSURE ABOUT THE WASTE COMPANIES YOU ARE USING CALL THE EA/SEPA FOR AUTHENTICATION**

All waste removed, even for recycling requires a Waste Transfer Note

A completed Waste Transfer Note *must* include:

- Details of the producer (us)
 - The carrier (including registration number)
 - Waste destination (i.e landfill, recycling, transfer station etc.) including Waste Management Licence number
 - 6 figure European Waste Catalogue Classification Code
- THESE MUST BE KEPT FOR 2 YEARS**

WASTE TRANSFER NOTES

For **SPECIAL WASTE** a five part consignment note must be completed. The EA/SEPA must be notified 3 days before the waste is removed. All parts A-D must be completed. **THESE MUST BE KEPT FOR 3 YEARS**

To demonstrate compliance with legislation on site the following records must be kept;

- ✓ All Waste Carriers licences
- ✓ Schedule of the waste that can be carried
- ✓ All Waste Management Licences or Exemptions (e.g. for Landfill sites, recycling and transfer stations)
- ✓ Schedule of the Waste categories that can be accepted under the Waste Management Licences
- ✓ Completed Waste Transfer Notes for 2 years
- ✓ Completed Special Waste consignment notes for 3 years

Further information is available on the Environment Agency web site at www.environment-agency.gov.uk or contact the Environment Advisor or your site environmental co-ordinator

Environmental Tool Box Talk -Pg2 Waste Management

The UK construction industry generates over 70 million tonnes of construction and demolition waste per year. This is four times as great as the rate of household waste production. Waste sent to Landfill also has a general impact on the environment in terms of methane, which is a greenhouse gas and leachate which pollutes groundwater.

Impact on the project programme and budget.

Handling waste will cost time, money and effort.

- e.g. it takes time to re-handle waste that was not managed properly initially.
- People often think that waste costs are only the costs of its disposal. In fact, the true cost of waste is:
- the purchase price of materials that are being wasted
 - the cost of storage, transport and disposal of waste
 - the cost of time being sent managing and handling the waste
 - the loss of income from not salvaging waste materials

Main problems on site:

- wasting excess quantities of raw materials
- storing and handling waste badly
- disposing of too much waste to landfill and therefore paying more landfill tax
- not following the rules on waste transport and disposal.

Storage and handling of wastes

Aim to segregate different types of waste, as segregation has many benefits:

- it is easier to see what types of waste are being produced and where efforts to reduce waste need to be targeted
- it can reduce landfill tax payments, because the contamination of inactive wastes by active wastes is reduced.
- it maximises the potential for reusing and recycling materials (see below)

Waste Management on site:

To manage waste effectively, have a plan to manage:

- the amount of materials that are wasted
- the way in which wastes are handled and stored
- the amount of waste that can be reclaimed
- the method of disposal of waste

Checklist for storing waste correctly on site:

- ✓ segregate different types of waste as they are generated
- ✓ mark waste containers clearly with their intended contents, possibly using colour coding
- ✓ use containers suitable for their contents
- ✓ check that containers are not corroded or worn out to minimise the risk of accidental spillage's or leaks.
- ✓ Provide covers and bunds to prevent evaporation and spillage of waste and ensure that wastes cannot blow away

Landfill Tax - is split into two rates, a charge of £2 per tonnes exists for inactive waste and active waste is currently £13 per tonne but will rise by £1 per tonne per year until it is £15 per tonne. If the load is mixed then the waste will be charged at the higher rate. There are some exemptions to the tax: these include the following materials - dredgings, contaminated land, storage of waste materials on the site you occupy for the siteowners (eg Railtrack) restoration of landfill sites (often difficult to categorise), if in doubt seek guidance from your site environmental co-ordinator or Environment Advisor.

Landfill Tax Rates

01/04/02 - 31/03/03	= £13
01/04/03 - 31/03/04	= £14
01/04/04 - 31/03/05	= £15
01/04/05 - 31/03/06	= £18
01/04/06 - 31/03/07	= £21
01/04/07 - 31/03/08	= £24
04/04/09 - 31/03/09	= £27

Waste as a resource -

Examples of materials arising as wastes on site that may be reused or recycled. be aware that there may be restrictions on the reuse and recycling of certain materials in some applications; refer to your site environmental co-ordinator, Environment Manager or the Environment Agency.

Concrete - Recycle for use as aggregate in new concrete, or for use as unbound aggregate in roads or fill.

Blacktop - recycle for use in bound layer of road or for use as bulk fill

Excavation spoil - recycle for use as fill, or for landscaping

Topsoil - reuse for landscaping

Timber - reuse for shuttering hoardings, recycle for chipboard

Appendix 4

Skip Signs



Appendix 5

Skip Records – Construction Phase