



St. Modwen Developments Ltd

Coed Darcy

Resource Management Plan

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Version Control and Approval

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This document, together with any associated documents, should be reviewed at regular intervals during the project and whenever there is a significant change to the site conditions such as a change in scope, site area, construction methods being used.

This document should be reviewed at least every 6 months to maintain its effectiveness, details of which should be recorded in Section 15.

Prepared for

St. Modwen Developments Ltd



Contents

Section	Page
I Introduction	I
1.1 Background	1
1.2 Purpose and Scope	2
1.3 Review Period	2
1.4 Compliance	2
1.5 Reference Documentation	3
2 Project Details and Responsibilities	4
2.1 Key Details	4
2.2 Scope of the Project	4
3 Tender and Design Elements	5
4 Responsibilities and Declaration	6
4.1 Responsibilities	6
4.2 Declaration:	6
5 Training and Communication	7
6 Materials to be Used	8
7 Waste Minimisation	9
8 Waste Forecast	10
9 Waste Management Options	11
10 Project Specific Targets	13
11 Duty of Care Documentation	14
12 Transport of Construction Materials and Waste	15
13 Importing Reused / Recycled Materials to Site	16
14 Unplanned On-Site Reuse or Recycling	17
15 Ongoing Review and Continuous Improvement	18
16 Final Review, Cost Savings and Lessons Learned	19



Appendices

Appendix A	Site Location Plan	20
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I Introduction

I.1 Background

This section will be updated at the time of completing the plan.

1.1.1 The Site

The Site is identified on the location plan at Appendix A. The site is a former BP refinery and is predominately brownfield land. It is approximately 126 ha in size.

Swansea city centre lies 4km south-west of the site whilst Neath town centre lies circa 3.5km north-east. The site is currently accessed from the B4290 which feeds off junction 43 of the M4 motorway via the Northern Access Road.

The site comprises former post-industrial land which has previously been cleared under an extant planning permission and has been subject to significant remediation since its previous use as an Oil Refinery. It predominantly comprises bare land, which has been partially vegetated with patches of woodland and some existing landscaping at the site boundaries. The site also includes the existing building at Britannic House and William Knox House in the east, as well as the original contractor's yard in the south.

Approximately 300 homes have been delivered on the site already (i.e. Phase 1 Persimmon development) which lies outside of the site boundary. Furthermore, the 'Heritage Gate' development, comprising further residential development has been developed to the south east of the site, directly to the north of Llandarcy Village.

A railway line dissects the northern and central part of the site. The far northern boundary adjoins the North Site Reservoir (which lies outside of the site boundary) and the M4 abuts the eastern boundary of this part of the site. The Crymlyn Bog Ramsar Site, Special Area of Conservation (SAC), Site of Special Scientific Interest (SSSI) and National Nature Reserve (NNR) abuts the western boundaries of the site.

1.1.2 Proposed Development

The project comprises the comprehensive development of the site, delivering up to 2,000 residential dwellings, the associated access, ecological mitigation, local employment, local retail, leisure and community facilities, land for education facilities and supporting amenity space, landscaping, green infrastructure, remediation and sustainable drainage systems.



I.2 Purpose and Scope

This Resource Management Plan (RMP) has been developed and supplements the Construction Environmental Management Plan (CEMP) to aid the management of materials and resources associated with the proposed Development.

The aim of the RMP is to promote resource efficiency and to prevent illegal waste activities.

Resource efficiency includes minimising waste at source and ensuring that Clients, Designers and Principal Contractors assess the use, reuse and recycling of materials and products.

The order of priority for the management of waste where waste generation could or does occur is listed in descending order of environmental preference in The Waste (England and Wales) Regulation 2011 as:

- Prevention
- Reuse
- Recycle
- Recover
- Dispose.

I.3 Review Period

In line with the nature of the proposed Development, it is envisaged that this plan will need to be implemented and updated at various stages associated with specific phases of works.

This Plan is a live document and will need to be maintained and subject to regular reviews to keep all information current, with a final review at project completion to close out the plan.

I.4 Compliance

A compliant RMP is one that defines:

- A target benchmark for resource efficiency, e.g. m³ of waste per 100m² or tonnes of waste per 100m²;
- Procedures and commitments for minimising non-hazardous waste in line with the target benchmark;
- Procedures for minimising hazardous waste;
- A waste minimisation target and details of waste minimisation actions to be undertaken;



- Procedures for estimating, monitoring, measuring and reporting hazardous and non-hazardous site waste. If waste data is obtained from licensed external waste contractors, the data needs to be reliable and verifiable, e.g. by using data from EA/SEPA/EA Wales/NIEA Waste Return Forms;
- Procedures for sorting, reusing and recycling construction waste into defined waste groups (see additional guidance section), either on-site or through a licensed external contractor;
- Procedures for reviewing and updating the plan;
- The name or job title of the individual responsible for implementing the above.

BREEAM does not include demolition and excavation (D&E) waste in its resource efficiency benchmark, despite it often being the largest tonnage of waste on-site, because the amount of D&E waste produced is site-dependant. Furthermore, it is not necessarily possible to reduce the amount of demolition waste (unless a decision is taken not to demolish in the first place).

Including D&E waste in an overall construction resource efficiency benchmark would:

- Not encourage sites with unavoidably large amounts of D&E waste to focus on reducing waste arising from construction materials (which would have further knock-on environmental impacts); and
- Mean that sites with little or no D&E waste would find compliance with the benchmark more straight forward, which would weaken the drivers for reducing construction waste resulting from the specification and use of new building materials.

BREEAM aims to ensure that, where D&E waste is generated, it is diverted from landfill and where possible reused for high grade use on-site to reduce the volume of new materials produced/required in the supply chain (which themselves may go on to generate additional waste).

I.5 Reference Documentation

Any documents used in support of the preparation of this RMP should be listed here.



2 Project Details and Responsibilities

2.1 Key Details

- Start Date: to be confirmed on completion of the plan, as relevant – whole project start date and details of specific phases as these come forward.
- Finish Date: to be confirmed on completion of the plan, as relevant – similarly – anticipated whole project finish date and details of specific phases as these come forward.
- Works Area: to be confirmed for the whole project and relevant phases as these come forward.
- Project Value: to be confirmed for the whole project and relevant phases as these come forward.

2.2 Scope of the Project

This section will include a detailed description of the project and identify who has been instructed to complete the design elements.

This section will also identify the anticipated waste streams associated with the proposed works and will highlight any decisions taken during design and/or tender stages to include low wastage options e.g. reused/recycled materials and to maximise the reuse of existing materials etc.

A record of these decisions will be maintained in Section 3.



3 Tender and Design Elements

This section will be maintained to provide a record of efforts made by the tender and/or design team to affect how the scheme is designed to maximise the efficient management of materials and waste.

Project Element	Action	Intended Result	Cost Saving



4 Responsibilities and Declaration

4.1 Responsibilities

Item	Name	Job Title	Company	Company Type
Who is responsible for drafting the management plan?				
Who is responsible for implementing the plan?				
Who is the waste champion?				
Who is the person in charge of the project?				

Details of where will this plan be kept should be provided here.

4.2 Declaration:

We agree that the 'Client' and any 'Principal Contractors' will take reasonable steps to ensure waste duty of care is complied with, materials are handled efficiently, and waste is managed appropriately.

	To be completed:
Signature	
Print Name	
Date	

5 Training and Communication

In line with the requirements of the CEMP (Section 3.2), all employees, contractors and utility staff working on site will undergo site induction training relating. The induction training will address elements including:

- Existence and requirements of this sub-plan;
- Relevant legislation;
- Waste reporting requirements;
- Requirements of the waste hierarchy;
- Waste/ recycle storage requirements;
- Potential for contaminated material (including asbestos containing material) to be present on site and management requirements for such material if identified; and
- Other specific responsibilities for waste and reuse management.

A record of all training and communication delivered to site team, will be maintained in the site records for each relevant phase of works.

Item	Induction	Toolbox Talks	Workshops	Meetings	Posters	Other
Training						
Communication						



6 Materials to be Used

In line with the nature of the proposed Development, it is anticipated that works will be phased. As such, different phases of works may co-exist on site at any one time during the lifetime of the project.

This section will be used to maintain a record of all information about how materials within each works package will be managed in order to reduce the amount of waste generated e.g. the use and management of soils (cut and fill) within the project in order to maximise the potential for re-use and avoid the need for its removal off site as waste.

Consideration of the energy that has gone into creating the material being used and where it has come from will also be given, such as the use of the use of recycled materials and the distance a material has to travel to get to site.

Where possible, preference should be given to local suppliers and sources.

Material	Phase of the Project	Work Package	Efficiency Measures Implemented

7 Waste Minimisation

This section forms a record of decisions taken before the RMP was drafted on the nature of the project, design, construction methods and materials to plan waste minimisation.

This Section links back to the description of the project and the anticipated waste streams discussed in Section 2.

Item	Type	Work Package	Waste Minimisation Decision Taken	By Whom	Intended Results
Inert					
Non-Hazardous					
Hazardous					



8 Waste Forecast

This section will be maintained as a record of the estimation of amounts and types of waste generated during the project.

Item	Project Phase	Work Package	Type of Waste	Estimate Amount (tonnes)
Inert				
Non-Hazardous				
Hazardous				



9 Waste Management Options

Where specific tasks are considered to be at risk of generating large volumes of waste, this section will be used to record potential opportunities are for reusing or recycling the waste created e.g. crushing of demolition waste for onsite reuse, take back schemes for reuse of pallets or the recycling of plasterboard etc.

Item	Project Phase	Type of Waste	Reuse (%)	Recycle (%)	Recover (%)	Dispose (%)	Container Type	Waste Management Contractor
Inert								
Non-Hazardous								
Hazardous								

The waste hierarchy must be taken into account in the consideration of all waste management decisions taken.

Prevention should be aimed for as the best-case scenario and conversely disposal should only be considered as a last resort, often only when the waste is hazardous in nature and no other option exists. Records of all materials removed from site will be maintained by each contractor, details of which will be reported at monthly progress meetings and full details of which (along with copies of any necessary Duty of Care paperwork as defined in Section 11) will be provided on completion of their works. Where possible, the receipt of such paperwork will be incorporated into the various contracts for proposed phases of works.

In the traditional linear business model, products are created using raw materials and then these products are disposed of when they have come to the end of their lives. This process is inherently wasteful and leads to a permanent loss of resources in some instances.

The circular economy is a different concept. Consideration is given to manipulating the product's life cycle so that it generates a loop of regeneration of useable product.



There are four main considerations to take into account when thinking about the circular economy. Processes at the top of this list have a smaller impact on the environment and therefore have a larger benefit:

- Maintain or repair e.g. correct maintenance of plant/tools can ensure that they last longer and function in a more efficient way;
- Reuse or redistribute e.g. can excess materials be used elsewhere on a project or another project?
- Refurbish or remanufacture e.g. if there features within a project that can retained with a new coat of paint;
- Recover and recycle e.g. crushing demolition material in order to use it within the project.

10 Project Specific Targets

This section will be used in order to record project specific targets and will take into account the Company and Divisional level targets in order to ensure that the project targets are aimed at achieving these higher level targets.

The table within this section can be used to structure the targets.

Objective	Target	Timescale	Responsibility	Actions
Maximise the amount of waste diverted from landfill	90% of C,D and E waste diverted from landfill	Review each month	Waste champion	Record all waste data via Footprint



II Duty of Care Documentation

All waste duty of care documentation will be obtained and retained by each contractor within their site files.



12 Transport of Construction Materials and Waste

Efficiency measures are not simply restricted to physical materials and waste. The emissions produced by the transportation of materials and waste are an indirect resource consumption.

Records will be maintained relating to vehicle movements in relation to transportation of both materials and waste to and from site including movement type (skip/bin delivery, waste removal, material delivery etc.), vehicle type (short wheel-base van, long wheel base van, 8-wheel tipper etc.), fuel type (diesel, petrol, LPG etc.) and distance travelled (km).

The data gathered can be entered into a suitable tool to identify the total fuel consumption and carbon dioxide emissions.

Additional measures relating to the transport of materials to and from site, such as staggered delivery and pick up times etc, may be implemented to help reduce impact and fuel usage associated with the proposed Development. Where these are implemented as part of the design of the works, details of these will be recorded elsewhere within this document as well as being defined with the CEMP.



13 Importing Reused / Recycled Materials to Site

This section will be used to record materials that have been imported to site from another location. Examples of this can include reused hoarding from a recently finished project to a new project, excess excavation material from finished or currently running project or crushed demolition material that is reused as aggregate or fill.

A file should be established on site to maintain physical evidence of the reuse nature of the material. In the example to hoarding this could take the form of previous chain of custody information for the original purchase.

With Demolition materials or other soils/rock, the project will need to ensure that they comply with current waste management regulations or supporting initiatives such as those by WRAP and/or CL:AIRE.

Material Type	Reused or Recycled	Supplier	Evidence	File Reference	Cost Savings



14 Unplanned On-Site Reuse or Recycling

This section will be used to record details of any onsite reuse, recycling or recovery that was not pre-planned (as part of Sections 7 and 8).

This may include situations where the scope of the works was changed during the project to incorporate the reuse of waste material or even the avoidance of removing something from site, thereby, eliminating the production of the waste in the first instance.

Material Type	Reused or Recycled	Work Package	Evidence	File Reference	Cost Savings



15 Ongoing Review and Continuous Improvement

This section is to be used to carry out an ongoing review of this plan at pre-determined intervals throughout the project e.g. every six months.

Reviewed by	Date	Comments

Continuous improvement of this Plan will be achieved by the ongoing evaluation of environmental management performance against environmental policies, objectives and targets for the purpose of identifying opportunities for improvement.

The continuous improvement process will be designed to:

- Identify areas of opportunity for improvement of environmental management and performance;
- Determine the cause or causes of non-conformances and deficiencies;
- Develop and implement a plan of corrective and preventative action to address any non-conformances and deficiencies;
- Verify the effectiveness of the corrective and preventative actions;
- Document any changes in procedures resulting from process improvement; and
- Make comparisons with objectives and target.



16 Final Review, Cost Savings and Lessons Learned

This section will be used to discuss the final review of the effectiveness of the plan including a summary of cost savings that were generated by the efficient management of materials and generated waste.

This may be as simple as working out the savings by diverting waste from landfill and the associated taxes involved or even the prevention of haulage costs by reusing waste on site. Include the cost savings mentioned within Sections 11 and 12.

Feedback should be given on how successful the plan and any supporting documentation was in improving the efficient use of materials taking into account the full project life cycle, including design and tender stages.

Where possible, recommendations should be given for improvements to future RMPs based on experience or knowledge obtained as part of the Development.



Appendix A Site Location Plan