



**REDROW HOMES
CONSTRUCTION ENVIRONMENTAL
MANAGEMENT PLAN
PHASE 2 BEREWOOD,
WATERLOOVILLE, HAMPSHIRE**

OUTLINE CEMP

JANUARY 2014



the journey is the reward

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List of Contents

Sections

1	Introduction	1
2	Project Outline.....	2
3	CEMP Objectives	6
4	Planning and Control of Construction Works	12
5	Work Activities, Potential Impacts and Mitigations Required.....	18
6	Communication and Coordination	22

Tables

Table 3.1: Legislative Requirements	11
Table 4.1: CEMP Team and Responsibilities.....	13
Table 4.2: Action Plan Responsibilities	14
Table 4.3: Responsibilities for General Site Management	16
Table 5.1: Impacts Identification and Mitigation Matrix	18
Table 5.2: Mitigation Measures.....	21
Table 6.1: Non Conformance Template.....	23
Table 6.2: Example CEMP Audit Report.....	25

Appendices – to be inserted during works

APPENDIX A: Appropriate Site Management Techniques [included]
APPENDIX B: Summary of Mitigation Measures from the ES [included]
APPENDIX C: Conditions [included]
APPENDIX D: Permits and Approvals [included]
APPENDIX E: Resource Management Plans
APPENDIX F: Environmental Method Statements/Action and Management Plans [included]
APPENDIX G: Environmental Risk Assessments
APPENDIX H: Work Programme
APPENDIX I: Record of Training /Inductions
APPENDIX J: Record of Sub Contractors
APPENDIX K: Record of Inspections
APPENDIX L: Record of Inspections by EM
APPENDIX M: Record of Environmental Monitoring
APPENDIX N: Record of Non Conformance
APPENDIX O: Minutes of Meetings
APPENDIX P: Contractors Audit Reports
APPENDIX Q: Site Waste Management [included]
APPENDIX R: Construction Traffic Routing Plan [included]

1 Introduction

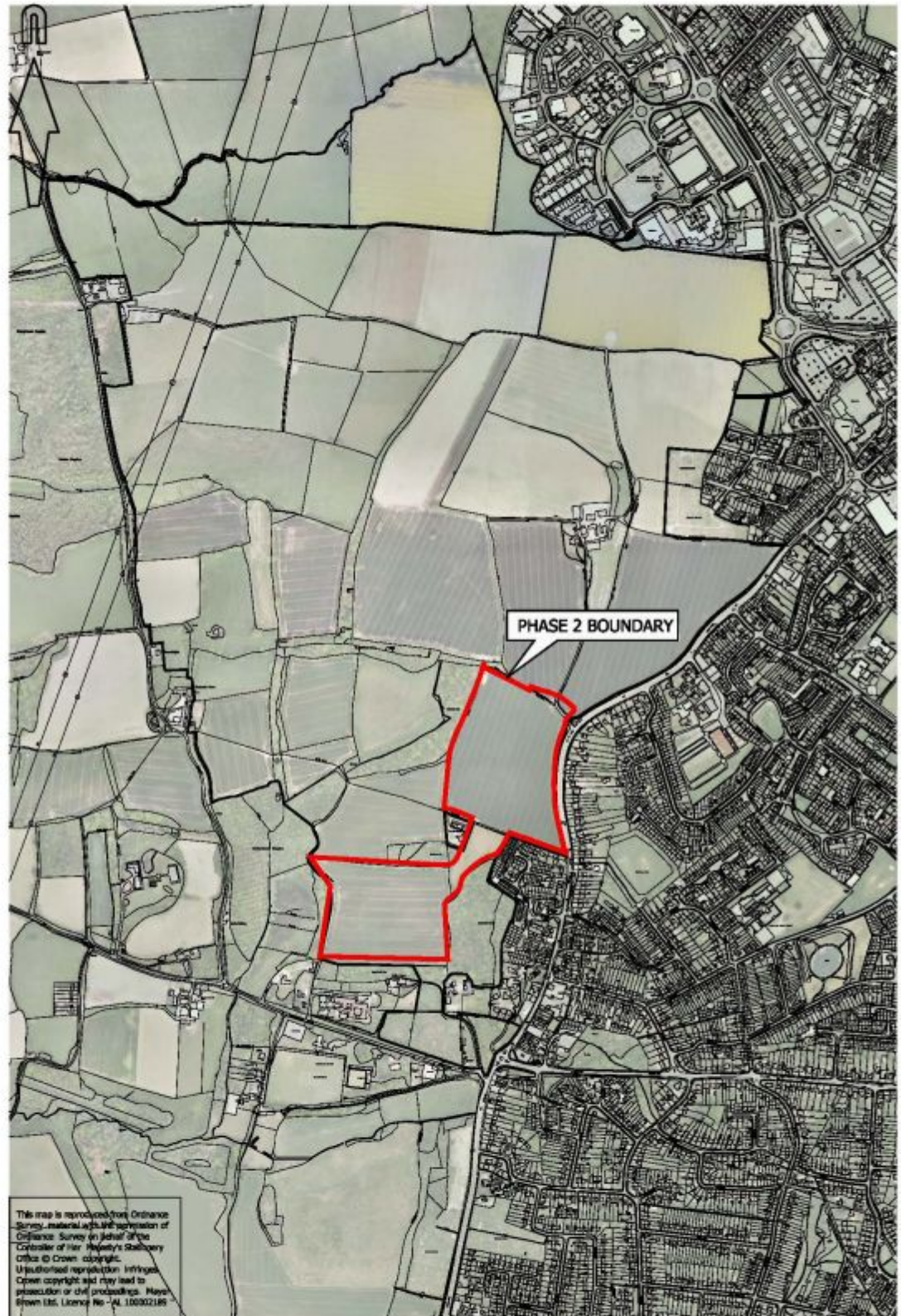
- 1.1 This Outline Construction Environmental Management Plan (CEMP) indicates the management framework required for the planning and implementation of the proposed site works, in accordance with environmental commitments identified within the Environmental Statement and any requirements of planning conditions or Section 106 legal agreements. Its purpose is to reduce the risk of adverse impacts resulting from construction on sensitive environmental resources, and to minimise disturbance to local residents and other sensitive receptors. The outline CEMP describes the checking, monitoring and audit processes that will be required to ensure works are being undertaken in accordance with these requirements, together with measures to ensure that appropriate corrective actions or mitigation measures are taken. The outline CEMP will form part of the overall Project Management and as such, activities described will be integrated with other Quality, Sustainability and Health and Safety management processes.

2 Project Outline

- 2.1 It is the aspiration of Redrow Homes to create a high quality, sustainable community, which responds positively to the geographical, political and economic context of the site at Phase 2, Waterlooville, Hampshire.
- 2.2 It is intended to construct a total of 246 new homes within the 7.85 ha parcel of land known as Phase 2. This land is set within the larger 'Berewood' site. The whole site has outline planning permission and the infrastructure of all phases are being implemented under this permission. Phase 2 is now being brought forward for completion under a Reserved Matters Application by Redrow Homes.

Site Description

- 2.3 Berewood is located immediately west of Waterlooville and north of Portsmouth in Hampshire. The A3 forms the eastern boundary of the site and the northern boundary extends towards Hambledon Road. The western boundary is formed by woodland belts and hedgerows to the east of Newlands Lane. The main part of the site extends south to Purbrook Gardens, with the part of the site required for proposed southern access road and associated infrastructure, extending further south to near Purbrook Heath Road. The built up area of Waterlooville borders the eastern boundary of the site with the town centre immediately to the east, Hambledon Road Local Centre to the north east and the Purbrook Local Centre to the south east. Brambles Business Park is located north west of Waterlooville Town bordering the site perimeter.
- 2.4 The Phase 2 site is located to the west of London Road and to the south of Milk Lane, as indicated below.



- 2.5 The Berewood Phase 2 Infrastructure Biodiversity Report¹ identifies existing parcels of woodland which are situated adjacent to the site. These include Newlands Row to the northwest, Marrelsmoor Row to the west, Marrelsmoor Coppice to the east and Highfield Row to the south. All of these bar one are designated as Ancient Woodland and as Sites of Important Nature Conservation (SINC). The exception being Highfield Row. The site will also abut an area of broad leaved woodland to the north which was planted in 2009 to compensate for some minor woodland and hedgerow loss. Phase 2 is also bordered by or contains hedgerows in numerous places. Significant sections of hedgerow in the south east have importance with regards to the Hedgerow Regulations.
- 2.6 All existing areas of hedgerow and trees will be retained. In addition to this, significant new planting and landscaping has been undertaken as part of the infrastructure works and this will all require protection during the house building phase.
- 2.7 Numerous ecological surveys have been carried and have identified the presence of dormice, reptiles, bats and great crested newts at various locations across the Phase 2 site. The detail of these and the required mitigations are set out in the Environmental Statement for the Outline Application.
- 2.8 This outline CEMP is concerned with the environmental mitigations required for the development of the site.

Works

- 2.9 The residential works are envisaged to include the activities within the list below. The list provides a description of the main aspects of the scope of works but is not exhaustive.
- Establish a site compound and offices on site;
 - Maintenance of existing drainage and pollution control measures on site;
 - Maintenance of Sustainable Drainage features;
 - Protection of trees and hedges where required;
 - Maintenance of GCN exclusion fencing where required;
 - Maintenance of landscaping features;

¹ Garland, L. (2013) Berewood: Phase 2 Infrastructure Biodiversity Report. Biodiversity by Design Ltd (on behalf of Grainager).

- Management of topsoil and subsoil; and
- Build out of houses.

2.10 These works will be illustrated within the contract drawings.

3 CEMP Objectives

- 3.1 The CEMP will aim to ensure that:
- all environmental safeguards are carried out correctly
 - site activities are well-managed
 - adverse impacts on the environment are minimised
 - the biodiversity of the site is conserved or enhanced
 - all relevant legislation is complied with, and
 - the project is monitored for environmental impact.
- 3.2 The CEMP fits into the overall planning process of the project by complying with the conditions attached to the planning consent.

Considerate Constructors Scheme

- 3.3 In order to aid compliance with the above objectives, the site must be registered with the 'Considerate Constructors Scheme'. Sites that register with the scheme are continually monitored by an experienced industry professional against an eight point 'Code of Considerate Practice'. The categories within this code are set out below.
- 3.4 **Considerate:** All work is to be carried out with positive consideration to the needs of traders and businesses, site personnel and visitors, and the general public. Special attention is to be given to the needs of those with sight, hearing and mobility difficulties.
- 3.5 **Environment:** Noise from construction operations and all other sources is to be kept to a minimum at all times. Efforts should be made to select and use local resources wherever possible. Attention should be paid to waste management and the avoidance of pollution. Recycling and the use of recycled materials is encouraged.
- 3.6 **Cleanliness:** The working site is to be kept clean and in good order at all times. Safety barriers, lights and warning signs are to be maintained in a clean and safe condition. Surplus materials and rubbish should not be allowed to accumulate on the site or spill over into the surroundings. Dirt and dust from construction operations should be kept to a minimum.
- 3.7 **Good Neighbour:** General information regarding the Scheme should be provided for all neighbours affected by the work. Full and regular communication with neighbours, including adjacent traders and businesses, regarding programming and site activities should be maintained from pre-start to completion.

- 3.8 **Respectful:** Respectable and safe standards of dress should be maintained at all times. Lewd or derogatory behaviour and language should not be tolerated under threat of severe disciplinary action. Pride in the management and appearance of the site and the surrounding environment is to be shown at all times. Operatives should be instructed in dealing with the general public.
- 3.9 **Safe:** Construction operations and site vehicle movements are to be carried out with care and consideration for the safety of site personnel, visitors and the general public. No building activity should be a security risk to others.
- 3.10 **Responsible:** Ensure that everyone associated with the site understands, implements and complies with this code.
- 3.11 **Accountable:** The Considerate Constructors Scheme poster is to be displayed where clearly visible to the general public. A site's contact details should be obvious to anyone affected by its activities.

Site Environmental Standards

- 3.12 Site environmental standards will be based upon the above code and will detail the minimum measures that should be achieved for general operations that fall outside the risk assessment/method statement procedure designed to cover the majority of construction activities. They will cover the following issues:
- storage of materials;
 - management of waste;
 - water pollution;
 - noise and vibration;
 - air quality; and
 - ecology
- 3.13 The standards will be displayed on site notice boards and used as a briefing tool on site.
- 3.14 The site is currently registered under Careys Construction for the infrastructure works phase. The site received a total score of 36 during the last inspection.

Legal Requirements

- 3.15 The CEMP will collate all legal requirements for the works and ensure that all are complied with during the construction phase of works. All legal requirements for the works will be agreed through consultation with the relevant Statutory Body.

- 3.16 The following legal requirements will be adhered to and this list will be added to as necessary throughout the development of the works.

NB Legislative list below under continuous review

Regulatory Instrument	Regulatory Authority	Requirement
Clean Neighbourhoods and Environment Act 2005 As amended 2006. The Site Waste Management Plans Regulations 2008	Winchester City Council Havant Borough Council	Developers are required to have a written Site Waste Management Plan in place for all projects over £300,000 build costs.
Environmental Protection Act (1990)	Winchester City Council Havant Borough Council	Introduces Integrated Pollution Control (IPC). Part III Statutory Nuisance Provisions (England & Wales) Section (79) relating to prevention of nuisance from industrial premises (including construction sites) relating to noise and air (smoke, fumes, gases, dust, steam, odour, smells, effluvia, smuts & deposits) Section 80 permits the local authority to serve an abatement notice on persons responsible for statutory nuisances. Section 61 requires that an application must be made to the local authority for consent to work if it is anticipated that a nuisance will be created.
Control of Pollution Act (1974)	Winchester City Council Havant Borough Council	Section (60) Working hours 08:00 to 18:00 Mon to Fri, 08:00 to 13:00 Sat. Nothing on a Sunday, bank and public holiday unless through agreement with the L.A. Section (61) The developer may apply in advance for consent as to the methods by which the works are to be carried out.
Control of Substances Hazardous to Health Regulations)1988	Winchester City Council Havant Borough Council	Requires employer to control all substances that are hazardous to health.
Control of Pollution (Amendment) Act (1989)	Winchester City Council Havant Borough Council Environment Agency	Registration of controlled waste carriers Control of illegal dumping of waste.
Control of Pollution (Oil Storage) (England) Regulations 2001	Winchester City Council Havant Borough Council Environment Agency	Applicable to any construction site storing more than 200 litres of oil above ground.

		Advises on the control and regulation of oil storage to prevent spills and leaks and to have adequate systems in place in the event of an emergency.
Pollution Prevention and Control Regulations 2000.	Winchester City Council Havant Borough Council Environment Agency	Enables regulations to be made to implement EC directive 96/61 on IPPC based of applications of BAT (Best Available Techniques)
Environment Act (1995)	Winchester City Council Havant Borough Council Environment Agency	Disposal of all "controlled waste"; including household, industrial and commercial waste as defined by the <i>Controlled Waste Regulations 1992</i> and the 2006 EU Framework Directive for hazardous or "special" waste.
Clean Air Act (1993)	Winchester City Council Havant Borough Council	Section 2. Prevention of Black Smoke emissions from industrial and trading premises
Ground Water Regulations (1998)	Environment Agency	Prevention of groundwater pollution from industrial / construction activities.
Water Resources Act (1991)	Environment Agency	Sections 85 and 88 make it an offence to 'cause or knowingly permit' pollution to enter a controlled watercourse unless this is permitted under other legislation. Section 161 of the <i>Water Resources Act 1991</i> empowers the agency to serve a 'works notice' on any person who has 'caused or knowingly permitted' a pollutant to enter controlled waters, including from contaminated land, requiring them to deal with the problem.
The Water Industry Act (1991)	Winchester City Council Havant Borough Council	Sections 77 and 78 require local authorities to keep themselves informed about the wholesomeness and sufficiency of both private and public water supplies. In the case of private supplies, they are required to serve notice requiring improvements. Section 80
The Salmon and Freshwater Fisheries Act (1975)	Environment Agency	It is an offence to contaminate waters in a way which may poison or injure fish, spawn, fish food or spawning grounds.
The Groundwater Regulations (1998)	Environment Agency	Powers to prevent and control the entry of listed substances to groundwater and require authorisation for disposal or

		tipping of substances. Under Section 66, no person without the previous consent of the Land Drainage Board may erect a building or structure nearby to a watercourse.
Land Drainage Act (1991)	Environment Agency	
Hazardous Waste (England & Wales) Regulations (2005)	Environment Agency	Regulation 16 requires that consignees should maintain full site records of all deposits of special waste; including a site plan marked with a grid, or with overlays on which deposits are shown.
Waste Management Licensing (England & Wales) (Amendment & Related Provisions) Regulations (2005)	Environment Agency	Under the EPA, the deposit, keeping, treatment or disposal of controlled waste, in or on land, requires a waste management licence.
Control of Pesticides Regulations (1986) (as amended)	Environment Agency	Section 26.4 requires consent of pesticides for their use under the conditions of the act. All pesticides must be products on the current list of Agricultural Chemicals Approval Scheme and all pesticide users shall comply with the conditions of approval relating to use clearly stated on the product label.
Town and Country Planning Act (1990) and Town and Country Planning (Trees) Regulations 1999	Winchester City Council Havant Borough Council	Part 8. Tree Preservation Orders (TPOs) can be made by the local planning authority to prohibit damage to or removal of trees without the local planning authority's consent.
The Hedgerow Regulations 1997	Winchester City Council Havant Borough Council	A hedgerow removal licence is required from the local authority if the hedgerow is older than 30 years old or satisfies at least one criteria listed in part 2 of schedule 1.
The Conservation (Natural Habitats & c.) Regulations 2010	Natural England Environment Agency	Controls the protection of 'European Protected Species' i.e. plants and animals listed in the European Habitats directive. All works to be undertaken in accordance with these regulations.
Natural Environmental and Rural Communities Act 2006	Environment Agency	Controls the protection of native species and environments. All works to be undertaken in accordance with these regulations.
The Protection of Badgers Act (1992)	Environment Agency	It is an offence to disturb, interfere with, damage or destroy a sett, to obstruct access to an entrance, or to wilfully injure, entrap or ill-treat

Wildlife and Countryside Act (1981) (as amended)	Natural England Environment Agency Winchester City Council Havant Borough Council	a badger. Controls the spread of invasive species and provides regulatory protection to species of birds, wild creatures and plants as listed within the Act. It is an offence (with the exception of Schedule 2 birds) to intentionally kill injure or take any wild bird or their eggs or nests.
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Table 3.1: Legislative Requirements

Permits and Approvals

- 3.17 Current permits and approvals required to carry out the works have been identified through consultation between project managers, the main contractor and the relevant sub-contractors. Where required, current permits and approvals are stored in Appendix D. These will also be reviewed and updated where necessary, as works progress.

Environmentally Sensitive Areas

- 3.18 The potentially environmentally sensitive areas associated with the works are identified as:
- Trees requiring protection;
 - Hedges;
 - Existing ditches;
 - Adjacent Ancient Woodland and Sites of Importance for Nature Conservation (SINC) – Newlands Row, Plant Row, Marrelsmoor Row, Marrelsmoor Coppice; and
 - Newt exclusion fencing ;
- 3.19 These will be reviewed and updated as necessary.

4 Planning and Control of Construction Works

CEMP Team

- 4.1 In order to enable efficient working practices on site, a CEMP team member will be identified, with specific responsibilities delegated to each member. The team members required and their responsibilities are set out below.

Title	Contact Details	Responsibilities
Client's Project Manager – (PM)	TBA	The Project Manager (PM) will act on behalf of the Client, with responsibility for managing the Project within the agreed environmental constraints in conjunction with all other necessary management processes.
Client's Environmental Manager – (EM)	TBA	The Client's Environmental Manager (CEM) will report to the Project Manager and will be responsible for monitoring the performance of the project against statutory requirements and the agreed environmental standards.
Client's Environmental Specialists – (ES)	TBA	The Client's Environmental specialists will be available to provide advice as required
Contractor's Site Manager – (CSM)	TBA	The Site Manager will ensure that all environmental policies addressed in the CEMP are adhered to by contractors and sub-contractors throughout the construction phase.
Contractor's Site Waste Manager – (CSWM)	TBA	The Site Waste Manager will be responsible for overall waste management issues arising from the project.
Contractor's Sustainability Manager – (CSuM)	TBA	The Sustainability Manager will be responsible for implementing all sustainability measures identified in the ES and arising from the project.
Contractor's Health and Safety and Environment Manager – CH&S	TBA	The Health and Safety Manager will be responsible for overall Health and Safety issues arising from the project.
Contractor's Overall Project Consultant – (CPC)	TBA	The Overall Project Consultant will be responsible for liaising with the CEMP Team and specialist consultants to ensure that the project is carried out to the required environmental standards.
Contractor's External Relations Officer – (CEO)	TBA	The external relations officer will be responsible for providing a point of contact for third parties and will be kept informed of all issues which may be of interest or concern.
Site Foreman – (CFR)	TBA	The foreman will be required to implement and monitor all environmental and health and safety measures as instructed by the site
Site Engineer – (CSE)		

Sub contractor(s)	TBA	manager. The contractor will be required to monitor the environmental and health and safety performance of all subcontractors to ensure compliance with the CEMP.
Appropriate Personnel – (AP)	TBA	All personnel will be required to have undertaken the health and safety and environmental induction course.
Environmental Health Officer – (EHO)	Les Glass Environmental Health Team Leader (Environment) Havant Borough Council Tel. (023) 9244 6668 www.havant.gov.uk	A representative from the Local Authority's Environmental Health Department will be invited to attend CEMP Team meetings to ensure that the project is addressing all environmental issues raised during the project planning stage
Monitoring Officer – (MO)	Jacky Wilson Winchester City Council 01962 840 222	A representative from the Local Authority's Planning Services Department will be invited to attend CEMP Team meetings to ensure that the project is addressing all planning issues raised during the project planning stage
Environment Agency Biodiversity Officer (BO)	George Woodard/Adam Cave Environment Agency 01962 764938	A representative from the Environment Agency will be invited to attend CEMP Team meetings to ensure that all issues of concern to the Environment Agency are being addressed.

Table 4.1: CEMP Team and Responsibilities

Resource Management Plans

- 4.2 Water and diesel consumption should be continuously monitored on site and will be recorded within the Resource Management Plans (Appendix E) of the CEMP on at least a fortnightly basis.

Action Plans/Method Statements

- 4.3 Where required, an Action Plan or Method Statement will be prepared by the contractor and environmental specialist to identify and sequence mitigation activities that are needed in order to complete a required site works process. They will identify reference documentation, the approval required to complete that activity and the verification documentation to be produced as evidence of satisfactory completion of the works.
- 4.4 Action Plans and Statements will include a review of the environmental risks and commitments, so that appropriate control measures can be developed and included within the construction process

- 4.5 The Plan or Statement will also identify where “cessation of works” will be required when necessary. These will be put in place when continuation of a subsequent activity is prohibited unless the former activity has been signed-off. The Plan or Statement will be broken down into appropriate categories depending on the phase of works to be carried out.
- 4.6 Where required, Action Plans and Method Statements will be identified for general site management and to deal with activities under specific types of works e.g. hedge removal, earth works.
- 4.7 Where necessary, all method statements will be submitted to the enforcement agencies (Environment Agency, Natural England, and Local Authority Pollution Control Department), as appropriate.
- 4.8 Any Action Plans/ Method Statements created will be saved within Appendix F of the CEMP. It should be noted that where action plans / method statements evolve through e-mail discourse, they will be stored in this form.

CEMP Action Plan Responsibilities Statement of responsibilities The contract as a minimum requires that the Client document and nominate persons (in a management position) with responsibility for the following		
Activity	Details	Responsible Person
Acquisition of appropriate licences and permits	Where activities require that e.g. CES (Contractor's Ecological Specialists) are required on site or that permits need to be obtained for relevant authorities	CEM - Contractor's Environmental Manager Reporting to: CSM – Contractors Site Manager
Dust and noise producing activities.	Where dust and noise producing activities are taking place the appropriate mitigations will be put in place and monitored on a daily basis.	AP: Appropriate Person Reporting to CEM
Run off producing activities	Where run off from the site has the potential to enter watercourses, mitigations should be in place to ensure this does not occur. Where consents to discharge are required these should be obtained.	AP Reporting to CEM CEM: Reporting to CSM

Table 4.2: Action Plan Responsibilities

General Site Management	Applicable (Y/N)	Responsible Person
Implement a soil and water management plan for the site	Y	CSM
Install appropriate silt fences and other sediment control structures where required	Y	CSM
Regularly check and clean silt from behind silt fences and barriers	Y	CSM
Ensure sediment control measures are in place before starting clearing and excavation activities	Y	CSM
Stockpile materials only in designated areas behind sediment fences	Y	CSM
Limit vehicle entry points and stabilise vehicle access ways	Y	CSM
Minimise disturbance to areas designated for conservation	Y	CSM
Implement a construction site waste management plan (SWMP)	Y	CSWM
Order only required quantities of materials	Y	CSM
Separate recyclable from non recyclable waste	Y	CSWM
Ensure correct waste materials are used by site personnel	Y	CSWM
Minimise chemicals stored on-site	Y	CSWM/CSM
Ensure personnel are aware of emergency phone numbers in case of environmental incident (Fire Brigade, Environment Agency and Pollution Control, Winchester City Council and Havant Borough Council)	Y	CSM
Keep Material Safety Data Sheets (MSDSs) on site at all times	Y	CSM
Ensure that there are clearly marked booms or absorbent materials on-site in case of a spill	Y	CSM
If a spill occurs, stop at source, contain it, clean up in accordance with MSDSs and notify the relevant authorities.	Y	CSM
Damp down dusty areas as required	Y	AP under CEM
All vehicles to remain on clean all weather surface within the site	N	
Minimise water use for cleaning	Y	CSM
Sweep roads free of dirt each day	where applicable	AP
Maintain fence at site boundary	where applicable	AP under CSM
Fence off no go areas to minimise disturbance	where applicable	AP under CSM
Minimise vegetation clearance	Y	CSM
Ensure that there is no burning of waste on-site	Y	CSM
Instruct trucks to use the routes identified for minimal impacts on residents	Y	CSM/CSM
Avoid parking site vehicles where they will unduly impact local use of the street	Y	CSM
Do not place waste containers, skip bins or building materials on road or footpath – store all materials within the work site	Y	CSM / CSWM
Limit hours of operations to suit Local Authorities requirements listed in consent agreements	Y	CSM/CERO
Use noise suppressors on machinery	Y	CSM
Do not use loud radios where neighbours can be disturbed	Y	CSM

Take appropriate care when using construction equipment in the proximity of buildings	Y	CSM
Advise neighbouring premises of commencement date for works at least one week prior to starting, including hours of work	Where applicable	CERO
Protect trees during construction	Y	CEM
Avoid harming protected species, e.g., reptiles, breeding birds	Y	CEM

Table 4.3: Responsibilities for General Site Management

Environmental Risk Assessments

- 4.9 The Contractor will be required to complete Environmental Risk Assessments in accordance with the requirements of the CEMP. The results of risk assessments and their residual risks will only be considered acceptable, if the severity of the outcome is reduced to the lowest practical level; the number of risk exposures are minimised, all reasonably practical mitigating measures have been undertaken and the residual risk rating is reduced to a minimum.
- 4.10 The findings of the risk assessment and in particular the necessary controls will be explained to all operatives before the commencement of the relevant tasks using an agreed instruction format.
- 4.11 The risk assessments themselves will be saved in Appendix G of the CEMP.

Work Programme

- 4.12 The work programme will be completed by the Contractor's Project Manager (CPM) in order to facilitate the regular monitoring of on-site activities in relation the requirements of the CEMP. This will be used to identify the need for environmental risk assessments, work method statements, training and mitigation. The programmes will be saved in Appendix H of the CEMP.

Training, Awareness and Competence

- 4.13 The raising of environmental awareness is viewed as a crucial element in the appreciation and implementation of the CEMP. In order to make sure the environmental control measures are effective, all staff will be provided with the following training before starting work on site.
- a site induction;
 - emergency response training;
 - familiarisation with site environmental controls; and
 - specific environmental training for relevant employees e.g. installing erosion and sedimentation controls, daily checks to maintain controls, cleaning up spills.

- 4.14 Training for all personnel will be completed before commencement of the associated construction activities and a record of this will be kept within Appendix I of the CEMP along with a copy of the induction material. Line managers and supervisors will ensure that all personnel engaged in activities that may have an impact on the environment are competent to carry out their duties or, where necessary, arrange for suitable training to be undertaken.

5 Work Activities, Potential Impacts and Mitigations Required

- 5.1 For the purpose of assessing potential impacts, the works have been set out in section 2.
- 5.2 Prior to construction, the CEMP will set out these activities into the planned phases of works and they will be assessed alongside the potentially affected receptors for potential impacts. i.e. the potential for the creation of a source, receptor pathway impact model will be assessed. Where potential impacts are identified, the mitigation required to prevent these will be identified along with the associated team responsibilities.
- 5.3 Activities, potential impacts and controls for the above phases will be set out within the matrix in Table 5.1 below.

Source Activity	Impact Pathways and Receptors			Actions & Responsibilities
	Nature Conservation	Air	Water	
Site Construction Activities	Death or disturbance of in-situ hibernating or sheltering Dormice, Great Crested Newts, reptiles and/or breeding birds ^{2,3}	Creation of dust impacting on site and off site personnel and flora and fauna ^{1, 6, 7, 8, 9, 10, 11, 12, 13, 22, 23, 24, 25,}	Pollution impacts to The River Wallington and tributaries via run off into field drains ^{18, 19, 20, 21, 22, 24, 25, 26, 27, 28, 29, 30, 32, 33, 34, 35}	Environmental Specialists (ES) to obtain any appropriate licences and ensure contractors undertake appropriate action prior to disturbing activities. All activities to be recorded by CEM
	Loss and damage to important tree/shrub habitat ^{4,5}	Noise impacts upon on site and off site personnel ^{1, 13, 14, 15, 16, 17,}	Potential for the migration of liquids from storage areas impacting on site and off site flora and fauna ^{28, 29, 30, 31, 32, 33, 34, 35}	AP to ensure appropriate dust and noise control mitigations in place and report to CEM on weekly basis.
		Noise impacts upon on site fauna ^{1, 14, 15, 16,}		Where appropriate CEM will advise CERO to contact public. CSM/AP to file weekly report with EM
		Potential for migration of dust from storage areas impacting on site and off site personnel and flora and fauna ^{6, 7, 10,}		

Table 5.1: Impacts Identification and Mitigation Matrix

- 5.4 Where the above activities are identified as potentially creating a source-receptor-pathway impact model, these activities will be associated with the mitigation measures identified within the Environmental Statement and Outline Conditions and set out below in Table 5.2. When applied, the mitigation will break these links and prevent incidents of pollution, nuisance and non-conformance. The following mitigation should

be read in conjunction with Appendix A –Appropriate Site Management Practices and Appendix B – Summary of Mitigation Measures from the ES.

5.5 NB: These will be updated with any conditions arising from the Reserved Matters Application

Number	Mitigation Measure
1	Appropriate space to be provided for parking and turning of operative, construction and visitor vehicles. Appropriate construction routeing to be set out for construction traffic within a Construction Traffic Management Plan
2	Where possible remove all tree/shrub vegetation in winter before bird breeding season commences. Wildlife and Countryside Act requires that where any vegetation is to be removed March - September this is first surveyed by a qualified ecologist to ensure absence of any nesting birds. Clearance of tree/shrub vegetation must occur between December and March inclusive and only after a European Protected Species Dormouse licence has been obtained. Trees and shrubs must be coppiced to a height of ca, 20-30m above the ground only, to protect hibernating Dormice. Subsequent groundworks cannot be undertaken until May, by which time any Dormice will be active again and will have moved into adjacent cover (refer to ecology report and project ecologist for detailed advice).
3	Ploughing of ground to take place prior to nesting season to discourage ground nesting birds.
4	Existing trees and areas of woodland to be retained with any removal to be advised and written consent given by the Local Planning Authority.
5	Professional tree protection to be provided where required in accordance with BS: 5837 (2005) 'Trees in Relation to Construction'.
6	Vehicles carrying dusty materials to be suitably covered. See Appendix 1 section 3
7	Site roads to be swept and sprayed with water to prevent dust nuisance.
8	Recycling activities that have the potential to generate dust (e.g. concrete crushers) to be sited in such a way to minimise dust nuisance to sensitive receptors.
9	Activities found to be generating dust in conditions where dust being spread may affect the public to be stopped, rescheduled or mitigated.
10	All supervisors to be familiar with the provisions of BRE Report 456: "Control of dust from construction and demolition activities"
11	All plant to be fitted with diesel particulate filters.
12	Site vehicles to be preferentially sought to have vertical exhausts to limit surface dust re-suspension.
13	All vehicle drivers to be acquainted with agreed haulage

	routes selected to minimise any air quality impact arising from additional lorry movements.
14	All supervisors to be familiar with provisions of BS5228, & advised on noise minimisation.
15	Noise levels to be set at 75dB in the working week which will be between 0800 & 1800 on weekdays and 0900 & 1300 on Saturdays.
16	Silencers or mufflers as appropriate to be fitted to plant and machinery.
17	Letter drops to surrounding residential areas to warn of particularly noisy periods of works.
18	A system of temporary drainage to be installed to ensure that no polluted surface runoff enters the River Wallington. Any surface water collected to be directed via treatment before discharge.
19	Any existing surface water drains to be bunded to ensure that no surface water enters them.
20	Where any pesticide use is required, refer to the strict requirements for notification of relevant bodies, secure storage, transportation, use and competences required, as set out in the Landscape Maintenance and Management Plan.
21	Where possible over-site hard standing to be retained & haul routes to be hard surfaced.
22	All vehicles leaving the site where necessary to be subjected to wheel washing.
23	All materials and spoil to be stored on site to be sheeted or damped down as appropriate in dry weather to reduce dust.
24	Stockpiling to be in accordance with best practice as in PPG6 or equivalent
25	Stockpiles of materials not suitable for on-site re-use to be removed as soon as is practicable in accordance with applicable waste management legislation.
26	Fuels and chemicals to be stored in accordance with PPGs 1,2,7. or equivalent
27	All tanks and containers to be labelled with nature of contents and total volume secured.
28	Storage and delivery facilities to be on impermeable surface in a secondary containment system; use of bowsers to be restricted to relatively immobile plants.
29	There is to be provision of spill kits at all storage areas & provision of emergency response numbers.
30	Biodegradable hydraulic oil to be used for machinery/plant where possible.
31	All deliveries to be supervised and levels of tanks checked before delivery.
32	Stockpiles to be sited so as not be subject to inundation during extreme rainfall events.
33	Contingency plan required for temporary covering of stockpiles during adverse weather conditions.
34	Sorted & screened material to be placed on a prepared clean granular surfacing.
35	Supervisors to be familiar with the provisions of PPGs 5

	& 22 or equivalent re control of contaminated run off.
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Table 5.2: Mitigation Measures

6 Communication and Coordination

Supervision of Construction Activities

- 6.1 All construction and installation activities, including those carried out by subcontractors and suppliers will be supervised or regularly checked through the completion of site inspections, by the Contractor's Environmental Manager, to ensure that requirements identified in risk assessments or method statements have been implemented. The frequency and extent of this supervision will vary according to the degree of competence displayed by the workforce and the level of risk to the environment. Records of Sub Contractors will be saved within Appendix J – Record of Sub-contractors.

Environmental Inspection and Reporting

- 6.2 Appointed environmental representatives or 'Appropriate Personnel' (AP) will carry out daily inspections of their respective construction areas, to verify that housekeeping or supporting controls are being implemented effectively. These inspections will use the site environmental standards (see section 3) as the minimum standards that should be achieved, with necessary actions being recorded and raised at progress meetings. They will also be required to implement and undertake monitoring and review of the Construction Traffic Routing Plan (see Appendix R). Subsequent inspections will commence with a review of all outstanding actions from previous reports to verify that they have been completed. Records of these daily inspections will be saved in Appendix K – Record of Inspections.

Environmental Inspection and Reporting

- 6.3 The Contractor's Environmental Manager will carry out regular inspections of the project's environmental performance, based upon site visits and reports from the environmental management representatives.
- 6.4 These inspections will be used to confirm that:
- construction works are progressing in accordance with the agreed method statements;
 - agreed protection or mitigation measures are in place, prior to or during the implementation of construction activities; and
 - construction works have been completed in accordance with the design and commitments made during the statutory process.
- 6.5 Inspections will be carried out at a frequency of no greater than monthly intervals, but could be held more regularly depending on the nature of the construction activity. These inspections will be also be recorded in Appendix K

- 6.6 An assessment of the environmental performance will be made and quantified at progress meetings and inspections will be recorded in Appendix L– Record of Inspections by EM.

Environmental Monitoring

- 6.7 Monitoring of noise, vibration, dust and water quality will be carried out in accordance with the specialist environmental procedures and environmental commitments made where required. The Environmental Manager will maintain a register of all formal environmental monitoring within Appendix M – Record of Environmental Monitoring.

Control of non-conformance

- 6.8 Non-conforming processes will initiate a Non-Conformance Report, which will identify the nature of the problem, the proposed corrective action, action taken to prevent recurrence of the problem and verification that the agreed actions have been carried out. Records of Non-conformance will be saved within Appendix N.

Non Conformance Report
Date:
Audit conducted by:
Name of audited contractor / sub-contractor:
Potential Impact:
Mitigation / enhancement measures:
Corrective action applied: (details)
Control Document: _____:
Relevant personnel informed: (details)
Copies sent to: (details)
Auditor's Signature
Environmental Manager's Signature
Project Manager's Signature

Table 6.1: Non Conformance Template

Internal Communications

6.9 Internal project communications will be via two processes:

- weekly team meetings; and
- fortnightly progress meetings – to be agreed.

Weekly Team Meetings

6.10 Weekly meetings will be held by the construction team to review performance and co-ordinate short-term planning of forthcoming activities. Close review of the CEMP should be made at these meetings to ensure that all planned activities are proceeding in accordance with the permits, conditions, action plans and method statements therein.

Progress Meetings

6.11 Environmental issues will be discussed at progress meetings, attended by the Contractor's Environmental Manager, relevant sub contractors environmental representatives and, when necessary, environment specialists and representatives from Statutory Consultees. The Client's Environmental Manager will report on inspections made and any non- conformances noted as well as discussing the implications of any proposed activities. Minutes of these meetings will be saved within Appendix O. Issues to be discussed may include:

- plan actions required to mitigate forthcoming risks;
- disseminate best practice; and
- communications with the Public

6.12 Where appropriate, a Project Community Liaison Plan will be established to provide a framework for managing communications with local residents and interested parties.

Audit and Review of Performance

Internal Project Audits

6.13 The Contractor will be required to demonstrate that an appropriate method of auditing the CEMP process via an internal or external auditing procedure is taking place. Provision of evidence that the agreed auditing procedure has taken place will be a requirement of regular reporting to the Client's Environmental Manager from the

Client's 'Appropriate Person' (AP) and meetings between the Contract Manager and the Client's Project Manager. The contractor's environmental manager will be required to provide a report at each progress meeting and a record of these will be saved within Appendix P – Contractor's Progress Report. A record of the Appropriate Person's reports will be saved in Appendix K as previously noted.

- 6.14 The reports will be required to include information on the following issues, where appropriate:

Audit Report	Yes	NO
1. Are all sediment control structures in place, maintained and operating? If no provide details.		
2. Have there been any (verbal or written) complaints from nearby residents, Local Authority or the Environment Agency in relation to site activities such as noise, dust, traffic, dirt trucked on roads, or stormwater pollution? If yes detail complaints and response to them.		
3. Have there been any incidents on site such as spills, chemicals or fuel? If yes describe what happened and what action has been taken.		
4. Are there any areas of the CEMP that have not been complied with? If so detail		
5. Have any further strategies been deployed to reduce waste to landfill?		
6. Has any on-site training taken place?		
7. List any other environmentally related issues.		

Table 6.2: Example CEMP Audit Report

Waste Management

- 6.15 A Site Waste Management Plan will also be maintained by the contractor with copies provided to the EM at progress meetings. These will be stored in Appendix Q - Site Waste Management

6.16 Redrow Homes Limited work in accordance with a detailed Waste Management Policy, which is based upon the 'Reduce, Reuse, Recycle' principle and was introduced in 2004 (see Appendix Q).

6.17 The document sets out the current legislation regarding waste and the Duty of Care requirements for all employees and is administered by Reconomy Solutions, Redrow's primary waste handling contractor. Where other waste management companies are involved , the same reporting template is employed to ensure consistency of reporting. In accordance with the policy, the service includes:-

- Advice and support to set up a waste recycling area on site;
- Collection of waste containers;
- Providing Tool Box Talks to raise workforce awareness and highlight ways to manage and reduce waste;
- Site visits to access, progress and train where necessary;
- Consolidated monthly reporting for each Redrow Company highlighting issues/success etc;
- Quarterly regional reviews with the Construction Director and Regional Account Manager;
- CSR Reporting to identify: -
 - percentage of waste of each waste stream diverted from landfill; and
 - setting target waste figures for each development and monitoring and reporting actual figures against the same with a view to reducing waste levels and improving performance.
- Registration of all sites for hazardous waste;
- Provision of Hazardous Waste Stations; and

- Plasterboard recycling service
- 6.18 Induction will be provided which specifically relates to the Redrow 'Waste Segregation Policy' (as described within the Waste Management Policy - Appendix Q).
- 6.19 Alongside the Waste Policy, Supplier Appraisal pro-formas have been developed by Redrow Homes with WRAP, which include reviews of material sourcing, packaging and wastage minimisation practices, recycling procedures, resource management, pollution monitoring and ethical working practices. An example of these is also included in Appendix Q.
- 6.20 It is proposed that the majority of waste will be managed on site in accordance with the Redrow Site Waste Management Plan so that zero tonnes are disposed of to landfill.

PLANS

APPENDIX A: Appropriate Site Management Techniques [included]

APPENDIX B: Summary of Mitigation Measures from the ES [included]

APPENDIX C: Conditions [included]

APPENDIX D: Permits and Approvals [included]

APPENDIX E: Resource Management Plans

**APPENDIX F: Environmental Method Statements/Action and Management
Plans [included]**

APPENDIX G: Environmental Risk Assessments

APPENDIX H: Work Programme

APPENDIX I: Record of Training /Inductions

APPENDIX J: Record of Sub Contractors

APPENDIX K: Record of Inspections

APPENDIX L: Record of Inspections by EM

APPENDIX M: Record of Environmental Monitoring

APPENDIX N: Record of Non Conformance

APPENDIX O: Minutes of Meetings

APPENDIX P: Contractors Audit Reports

APPENDIX Q: Site Waste Management [included]

APPENDIX R: Construction Traffic Routing Plan [included]

