



**Plot 4a Dunsbury Park, Fitzwygram Way,
Havant.**



Construction Environmental Management Plan

Revision v01



Portsmouth
CITY COUNCIL

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List of Abbreviations

Above Ordnance Datum (AOD)
BAM Construction Ltd (BAMC)
BAM Design (BAMD)
Construction Environmental Management Plan (CEMP)
Construction Industry Research and Information Association (CIRIA)
Control of Substances Hazardous to Health (COSHH)
English Heritage (EH)
Environment Agency (EA)
Environmental Clerk of Works (ECW)
Environmental Statement (ES)
Habitats Regulations Assessment (HRA)
Ministry of Defence (MOD)
Natural England (NE)
Peter Brett Associates (PBA)
Planning conditions (PC)
Pollution Prevention Guidelines (PPG)
Portsmouth City Council (PCC)
Project Manager (PM)
Site of Special Scientific Interest (SSSI)
Sites of Importance for Nature Conservation (SINC)
Site Waste Management Plan (SWMP)
Special Protection Area (SPA)
Written Schemes of Investigation (WSI)

1 Introduction

1.1 Purpose

- 1.1.1 This Construction Environmental Management Plan (CEMP) summarises the actions required during the development of Plot 4a, Dunsbury Park, Fitzwygram Way, Havant, in accordance with environmental commitments and requirements identified within the Environmental Statement (ES), planning conditions, contractual and legislative requirements and construction industry best practice.
- 1.1.2 The objectives and mitigation actions set out in this CEMP will be monitored throughout the works to ensure that the mitigation actions are carried out.
- 1.1.3 This CEMP will be updated as necessary to reflect changes in any aspects of environmental management, including any more detailed requirements proposed as part of submissions of details of reserved matters.
- 1.1.4 Each subsequent version of the CEMP and supporting Management Plans will be discussed with relevant statutory authorities, local planning authorities and the environmental regulators as appropriate.
- 1.1.5 Ongoing consultation will be required with Natural England (NE) and The Environment Agency (EA) in relation to any further material changes on ecological matters made to the CEMP.

1.2 Project

- 1.2.1 Plot 4a, Dunsbury Park comprises the construction of a new B2 class industrial unit with associated office space, service yard, car parking. The building floor area is approximately 1000m² and will be a steel framed structure with predominantly metal clad elevations and roof.

1.3 Site Description

- 1.3.1 The proposed overall Dunsbury Park development is on a 33 hectare area of land located to the west of Leigh Park, Havant. The Proposed Development includes 20.2 hectares which will be developed for employment uses and a hotel with conference facilities. The rest of the Site will be developed to provide a comprehensive landscape framework and supporting infrastructure including a new link road. The Site is within the ownership of Portsmouth City Council apart from a small area of land adjacent to Hulbert Road which is in the ownership of the Department of Transport. It is located on undeveloped land between Waterloooville and Leigh Park on the north western side of Havant Borough. The Site lies immediately to the east of the A3(M) motorway Junction 3, and the A3(M) runs along the western edge of the Site. The residential area of Waterloooville lies to the west of the Site, while the Leigh Park estate lies to the east. Open countryside consisting of blocks of woodland and agricultural fields lie to the north of the Site. There is a further area of woodland and agricultural fields to the south of the Site, with superstores located further south on Purbrook Way. The slip road leading off the A3(M) is the B2150 Hubert Road, which runs on the western side of the Site, and is proposed to provide access for the Proposed Development.
- 1.3.2 The principle urban features are the western settlement edge of Leigh Park and a large pylon with overhead cables running north to south across the Site. The A3(M), although not directly visible, can be heard and it becomes visible with a more audible presence at the raised roundabout at Junction 3.
- 1.3.3 The Plot 4a Site comprises an open previously prepared development plot. Sites of Importance for Nature Conservation (SINCs) are located adjacent to the plot, including the Cherry Tree Row SINC to the immediate West of the plot. The proposed building slab is proposed to be established at a level of 30.000AOD.
- 1.3.4 Ground conditions are generally comprised topsoil overlying Bognor Sand Member or London Clay Formation to the depth of investigation.

1.4 Environmental Constraints

- 1.4.1 The following environmental constraints exist on the wider Dunsbury Park site and will be managed throughout the project where the proposed works pose any risk of ecology disturbance. It should also be noted that mitigation has already been taking place as part of the site's highway construction and previous plot developments. Detailed reference can be made to the Environmental Statement, produced by Atkins in March 2012 and Ecological Impact Assessment produced for plot 2:
- 1.4.2 Close proximity of residents who will be sensitive to noise and disruption during construction;
- 1.4.3 Existing lines of trees which offer screening for residents as well as foraging corridors for bats. Some trees offer bat roosting potential;
- 1.4.4 Wintering Birds. Close proximity of Portsmouth Harbour which is a water body of international importance for its nature conservation interests (SPA, Ramsar and SSSI). This includes a significant wintering bird population present from October to March.
- 1.4.5 Breeding Birds. Areas of trees and scrub within and adjacent to the working area have the potential to support breeding birds.
- 1.4.6 Bats. All species of Bat are protected in the UK. Existing lines of trees which provide foraging corridors for bats including the two rarest UK species. Some trees may offer bat roosting potential.
- 1.4.7 Reptiles are present at the site and mitigation has been commenced during vegetation clearance.
- 1.4.8 Dormouse are present within woodland and scrub around the perimeter of the site. Dormice are a designated European Protected Species and therefore protected in the UK.
- 1.4.9 Habitat reinstatement will consist of the establishment of boundary planting to improve and reinforce the woodland edge surrounding plot 3.

1.5 Environmental Objectives

- 1.5.1 The Environmental Objectives, developed from the Environmental Statement and the Ecological Impact Assessment produced for Plot 2, are:
- To minimise and control the environmental impact of the design process considering the environmental criteria that can be managed at the design stage;

- To minimise the risk of any type of pollution incident or other form of unauthorised discharge from either the construction activity or the ongoing operation of the development;
- To minimise any nuisance created by the construction activity to the site's neighbours and neighbouring communities;
- To maintain clear communications between BAM's Project Manager and relevant third parties, with assignment of any specific and/or statutory reporting duties to relevant third parties to the Contractor (and/or his Sub- Contractors), where these are to remain his statutory duty;
- To minimise the risk of direct or indirect harm to designated sites or protected species.

1.6 Best Practice Guidelines

1.6.1 Environmental construction best practice guidance can be found in the Construction Industry Research and Information Association guidance on environmental good practice on site (CIRIA, 2011), and in Environment Agency (EA) guidance, including the Environment Agency's Pollution Prevention Guidelines:

- PPG1: General Guide to the Prevention of Pollution,
- PPG5: Works in, near or liable to affect watercourses,
- PPG6: Working at Demolition and Construction Sites,
- 63-05: SD02 and SD06.

1.6.2 As regards the EA's PPGs, the following are particularly important:

- Ensure all site personnel are aware of the Pollution Incident Response Plan;
- Ensure no refueling activities are undertaken within 10 metres of a watercourse (PPG 5 Section 1.1).
- Ensure any hydraulic oil is biodegradable;
- Ensure drip trays are fitted to all plant and machinery while on site;

- Carry out regular inspections of plant and drip trays;
- Ensure spill kits are always available and all site operatives know how to use them;

1.6.3 Other sources of information include CIRIA, the Building Research Establishment Ltd (BRE), and Construction Excellence.

1.6.4 The completion of the objectives and mitigation for each phase will be signed off by the Contractor and Environmental Clerk of Works (ECW).

1.7 Organisation and Roles

1.7.1 Key staff, their affiliation, role and contact details are set out in Appendix D

1.8 Training and Competence

1.8.1 All project personnel must be familiar with the CEMP and its contents.

1.8.2 The CEMP details the environmental training that all project personnel are required to undergo, including any replacement personnel. Environmental training during the construction stage shall include:

1.8.3 The contents of the CEMP;

- A site induction (where relevant)
- Review and understand environmental controls;
- Emergency response training;
- Specific environmental training to those relevant employees (e.g. storage of oils and chemicals on site)

1.8.4 During construction BAMC shall make provision for BAM's Environmental Manager and the Project Ecologist to provide toolbox talks to construction staff whenever appropriate. Tool box talks shall include details such as:

- The environmental value of the site;
- Protection measures to be implemented;
- Expected practice on site; and
- Procedures in the event of an emergency.

1.9 Legislation

1.9.1 Table 1 below sets out the key legislation relevant to particular issues identified in relation to the Plot 4a, Dunsbury Park project. In addition to those referred to in this document, there are likely to be other relevant pieces of legislation applicable to construction site activities. The following table is intended as a summary guide only

Table 1: Relevant Legislation

Issue	Legislation	Legislative Effect	Compliance Measures
Bats European protected species	Conservation of Habitats and Species Regulations 2017 Reg 43	It is an offence to deliberately capture, injure or kill a bat; deliberate disturbance of bats; or damage or destroy a breeding site or resting place used by a bat. [The protection of bat roosts is considered to apply regardless of whether bats are present.]	No specific compliance measures are required for Plot 4a since no resting places or breeding sites are located within the plot.
	Wildlife and Countryside Act 1981 (as amended) S.9	It is an offence to intentionally or recklessly obstruct access to any structure or place used for shelter or protection or disturb a bat in such a place.	

Issue	Legislation	Legislative Effect	Compliance Measures
Statutorily protected nature conservation sites at Portsmouth Harbour: Special Protection Area, Ramsar Site and Site of Special Scientific Interest	Conservation of Habitats and Species Regulations 2017	The SPA and Ramsar sites are also notified as a SSSI. It is an offence to carry out notified potentially damaging operations on a SSSI without our consent or reasonable excuse. The courts may also require restoration of any damage caused by unauthorised works.	A Habitats Regulations Assessment (HRA) was undertaken prior to planning consent. This HRA demonstrated that there would be no potentially damaging operations from the proposed scheme.
Nesting/breeding birds	Wildlife and Countryside Act 1981, (As amended) Part 1	It is an offence to intentionally: kill, injure, or take any wild bird, take, damage or destroy the nest of any wild bird while that nest is in use or being built, or take or destroy an egg of any wild bird. Special penalties are available for offences related to birds listed on Schedule 1, for which there are additional offences of disturbing these birds at their nests, or their dependent young.	Undertake vegetation clearance work outside of breeding bird season or undertake with an ecological watching brief. Cease work if breeding birds are present (or nests are being built).

Issue	Legislation	Legislative Effect	Compliance Measures
Reptiles (adder, grass snake, common lizard and slowworm)	Wildlife and Countryside Act 1981 (as amended) Sect 9 (1)	It is an offence to intentionally kill or injure reptiles	Grass within the works footprint is to be kept short to discourage reptiles from site. An ecological watching brief of topsoil stripping is identified as a measure. Works should cease should a reptile be discovered and advice from a competent ecologist sought.
Badgers	Protection of Badgers Act 1992	It is an offence to injure or kill badgers or to interfere with badger setts,	A pre- construction badger survey has been undertaken. No evidence of Badgers on Plot 4a has been identified.
Dormouse	Wildlife and Countryside Act 1981, (As amended) Conservation of Habitats and Species Regulations 2017	The dormouse is strictly protected under the Wildlife & Countryside Act 1981 (as amended) and the Conservation (Natural Habitats &c.) Regulations 1994 (as amended). The deliberate capturing, disturbing, injuring and killing of dormice is prohibited, as is damaging or destroying their breeding sites and resting places.	Limited vegetation clearance works to be undertaken implementing a Precautionary Method of Working (PMW) in the presence of an experienced ecologist. IF a dormouse is found during the works, a licence from Natural England may be required.

Issue	Legislation	Legislative Effect	Compliance Measures
Pollution incidents (including pollution of waterbodies, land, species and habitats)	Environmental Permitting (England and Wales) Regulations 2010 Water Resources Act 1991 Environmental Damage Regulations 2009 (SI 2009/153) Water Resources Act 1991	Under the Environmental Permitting Regulations it is an offence to cause or knowingly permit a water discharge activity unless you are complying with an environmental permit or exemption. Things that count as water discharge activities are listed in Schedule 21. They include: discharging poisonous, noxious or polluting matter or solid waste matter into inland freshwater, coastal waters and relevant territorial waters. It is also an offence to cause or knowingly permit a groundwater activity unless you are complying with an environmental permit or exemption. Based upon the 'polluter pays' principle, the Environmental Damage Regulations cover not only species and habitats protected by the Birds and Habitats Directives but also any other species and habitats protected on Sites of Special Scientific Importance (SSSIs) They impose duties on operators of economic activities to take immediate steps to prevent damage if there is an imminent threat, and to control damage which is occurring so as to limit its effects. Operators of activities listed in Schedule 2 of the regulations will be liable for damage caused by them whether or not they are at fault, whereas operators of any other activities can also be liable for species and habitat damage, but only if they are at fault (that is, if they intended to cause damage or were negligent).	If you become aware of a pollution incident or even a potential risk to the water environment, you should contact the Environment Agency immediately. Details of how to report an environmental incident are set out in this CEMP. If they suspect a water pollution offence has been committed, they may prosecute the person responsible. The Environment Agency may require the polluter to take steps to clean up or prevent the pollution. It could issue a works notice under section 161A of the Water Resources Act 1991 Site Perimeter fencing has been erected to prevent incursion during the works and therefore protect the woodland SIN and surrounding habitats.
Invasive non- native plant species	Wildlife and Countryside Act 1981 (as amended)	If any person plants or otherwise causes to grow in the wild any plant which is included in Part II of Schedule 9 of the legislation.	No Schedule 9 species have been located on the plot4a site.

Issue	Legislation	Legislative Effect	Compliance Measures
Archaeological finds	Treasure Act 1996	This legislation updates the laws on Treasure Trove and introduces a pilot scheme for the voluntary recording of archaeological finds. 'Treasure' under the 1996 Act is now defined more precisely in law and a code of practice and formal reporting procedure has been introduced.	Any finds made that are identified under this Act shall be reported to the appropriate Coroner. BAM have undertaken a site Archaeological investigation in accordance with the WSI approved by Havant BC. No finds of interest were discovered.
Nuisance from construction noise	Control of Pollution Act 1974 Environmental Protection Act 1990	Under the Control of Pollution Act 1974 local authorities can serve a notice imposing requirements as to how the construction works should be carried out to minimise noise. The environmental health department sets noise limits, taking into account the character of the local area. Anyone intending to carry out construction works may apply in advance for a consent. Compliance with the terms of a notice or consent does not rule out proceedings by an individual on the grounds of noise nuisance under s.82 of the Environmental Protection Act.	Following a detailed assessment of likely noise nuisance generation prior to Consent, under Section 61 of the Control of Pollution Act may be applied for from the relevant Local Authorities prior to the commencement of the works; these consents would be time limited and would be subject to review by the Local Authority as construction works progress.
Construction dust	Environmental Protection Act 1990 Health and Safety at Work Act 1974	Under Part 3 of the Environmental Protection Act, emissions of dust, fumes and other effluvia from construction sites can be identified as statutory nuisance if prejudicial to health or a nuisance. Control of a statutory nuisance is contained within section 80 and a LA has a mandatory duty to serve an abatement notice on the person/owner or occupier of the premises responsible for the nuisance.	The contractor shall put in place measures to control and manage dust in accordance with the CEMP.

Issue	Legislation	Legislative Effect	Compliance Measures
Excavation of contaminated materials during construction	The Environmental Protection Act 1990 Environmental Permitting (England and Wales) Regulations 2010 Waste (England and Wales) Regulation 2011 Part IIA of the Environmental Protection Act 1990.	Excavated material generated by the development of land may be waste and subject to waste regulatory controls which ensure that waste does not harm human health or the environment. Necessary measures to be taken to ensure that waste is recovered or disposed of without endangering human health and without using processes or methods which could harm the environment, and in particular: • Without risk to water, air or soil, or to plants or animals; • Without causing a nuisance through noise or odours; • Without adversely affecting the countryside or places of special interest.	Waste may potentially be generated during the excavation and regrading of the site from arisings deemed unsuitable for reuse within the scheme. The Contractor should refer to the Remediation Strategy for handling of contaminated waste.
Waste	Environmental Protection (Duty of Care) Regulations 1991 Waste (England and Wales) Regulation 2011	The Duty of Care requires that waste be kept safe against: • Corrosion and wear of waste containers • Accidental spillage or leaking • Accident or weather breaking contained waste open and allowing it to escape • Waste blowing away while stored or transported • Scavenging of waste by vandals, thieves, children, trespassers or animals. It should be remembered that the Duty of Care applies to all controlled waste including materials sent for recovery, reuse and recycling.	The Contractor should prepare and refer to the Site Waste Management Plan. All waste must be accurately labeled. Produce an accurate description of the waste. The description must be sufficient to ensure that subsequent holders of the waste are able to avoid mishandling it. The description should contain information about the source of the waste, what it is made up of, how it was produced and details of any special problems which may be encountered when handling the waste.

2 Environmental Aspects, Impacts and Mitigation

- 2.1 Environmental aspects are project activities or services that may interact with the environment. Environmental impacts are the change in environmental conditions resulting from the environmental aspect.
- 2.2 The environmental aspects and impacts associated with the project were identified during pre-construction surveys and data gathering exercises conducted as part of the environmental impact assessment process. Additional aspects and impacts have also been identified in the Dunsbury Park Works Information.
- 2.3 Table 3 below outlines the mitigation commitments for the scheme. The source of the mitigation requirement is listed in the second column. The following abbreviations are used:

PC – Planning conditions;

ES – Dunsbury Hill Farm Link Road Environmental Statement, 2012

WI – Works Information, Portsmouth City Council, 2014

- 2.4 For many of these aspects, mitigation measures have been identified and agreed and implemented. Where necessary, the mitigation requirements will be incorporated into the relevant works method statements, and specific mitigation strategies identified in the Environmental Statement (ES) and Ecological Impact Assessment for plot 2, e.g. reptile mitigation strategy, shall be implemented.

Table 2: Environmental Mitigation Requirements

Ref	Source	Environmental Aspect	Required Measures	Target Outcome	Responsibility	Timescale	Comments
	ES	Nature conservation: Habitats Regulations Assessment		No impact on integrity of designated sites from scheme.	BAM	Construction and operation phases of the development	Ongoing monitoring by BAM and project ecologist
	ES	Nature Conservation – Protected Species and habitat	Surveys to be undertaken relating to the following species and mitigation measures implemented prior to construction; Birds, Bats, Reptiles, Dormice, Badgers, Arboricultural	No significant impact of protected species	Project Ecologist /BAM	Pre-construction and construction phases. Species Monitoring may continue into operational phase.	Ongoing monitoring by project ecologist and method statements to incorporate requirements of licences (if required)

Ref	Source	Environmental Aspect	Required Measures	Target Outcome	Responsibility	Timescale	Comments
	ES	Nature conservation: bats	Where possible, time construction works to avoid the months when bats are active and foraging: (Typically March to October) If this is not possible all works should take place in daylight hours only, taken to be 30 minutes after dawn and up to 30 minutes before dusk. The detailed design and construction schedule must take account of any additional bat activity found, and works must be phased to avoid any potential adverse effects on bats. No lighting should be used at site during construction. If security lighting is required for health and safety reasons, lighting will be directed towards the ground away from suitable habitat such as woodland edges and hedgerows	Construction related impacts upon bat foraging activity are minimised.	BAMC	Bat surveys completed by Atkins in 2017.	Eight Schegler bat boxes have been installed in Cherry Tree Row SINC as part of the previous development of plot 2. Sensitive lighting design required due to presence of two of the rarest species Bechstein and Barbastelle bats

Ref	Source	Environmental Aspect	Required Measures	Target Outcome	Responsibility	Timescale	Comments
	ES	Nature conservation: birds	Programme vegetation clearance to avoid bird nesting season (1st March to 31st August inclusive). to avoid damage or destruction of occupied nests or harm to breeding birds . If this cannot be achieved, works within the core bird nesting season will require an inspection of vegetation to be cleared for breeding birds and their occupied nests by a suitably qualified ecologist no more than 24 hours prior to any works being undertaken. If any nesting birds are identified during the survey they will be left <i>in situ</i> for their entire nesting period and alternative approaches to the work proposed. This may include leaving an exclusion zone around the nests to avoid disturbance as advised by ecologist.	No disturbance of nesting/ breeding birds due to vegetation clearance.	Contractor	Completed.	If Additional vegetation clearance is required – BAM will consult project Arboriculturist and Ecologist
	WI 4.11.8; ES 10.71	Environmental management	Prepare a Site Resource Management Plan (part of CEMP). The purpose of the RMP is to ensure that construction materials are managed efficiently, waste is disposed of legally and material recycling, reuse and recovery is maximised. The RMP must also include requirements to ensure that risks from waste do not pose an unacceptable risk to human health.	Materials are re-used where possible. Waste is minimised and managed appropriately.	Contractor	Prior to construction.	See Separate Document Resource Management Plan.

Ref	Source	Environmental Aspect	Required Measures	Target Outcome	Responsibility	Timescale	Comments
	WSI	Cultural heritage	Undertake an archaeological site investigation prior to construction	Unexpected archaeology is identified and appropriately managed.	BAM	Prior to construction.	Following completed investigations on the wider site HCC's county ecologist has confirmed that no site investigation of plot 4a is required.

Ref	Source	Environmental Aspect	Required Measures	Target Outcome	Responsibility	Timescale	Comments
	ES	Nature conservation: Dormouse	Ecologists have undertaken a site survey for dormice using dormice nest tubes. (update survey completed in 2017) A limited amount of vegetation clearance or works will be undertaken using a Precautionary Method of Working (PMW) written and overseen by an experienced ecologist to minimise the risk of impacting dormice. The methods advised will be appropriate for the time of year of the works. This includes a thorough inspection of any overlying vegetation to be cleared, for hibernation nests or summer nests. Due to the presence of hazel dormice in the hedgerows bordering and connected to the Application Site, there is potential for disturbance and habitat fragmentation caused by noise and/or inappropriate lighting. However, providing the design features and mitigation measures outlined in Section 4 regarding protection of the hedgerows and no night working/lighting during construction and a sensitive lighting scheme employed during operation are implemented, no significant adverse effects are anticipated on hazel dormice. If a dormouse is found, all works in the area will cease until appropriate measures have been put in place for works to continue. In such circumstances a licence from Natural England may be required before works can continue. All retained vegetation to be protected by stabilised heras fencing or solid fencing to prevent encroachment of machinery.	Avoid significant risk of harm to dormice.	Project Ecologist	Dormouse presence/absence surveys completed.	No dormice have been identified within the Plot 4a boundary during 2017 presence absence surveys.

Ref	Source	Environmental Aspect	Required Measures	Target Outcome	Responsibility	Timescale	Comments
	ES	Control of invasive species	Prevent and control invasive weeds that have been identified on site i.e. Himalayan Balsam	No spread of invasive plant species on site.	BAMC	During construction.	None identified on the Plot 4a site. If invasive plants are identified, please contact the ecologist.
	ES	Manage risk of pollution incidents	Manage operations and control of deliveries	No risk of significant harm to human health.	BAMC	During construction.	See Site Management Plan
	ES	Manage risk of pollution incidents/ protection of Portsmouth Harbour and adjacent woodland	Control surface water run-off during all stages of construction, implementing appropriate temporary diversions and storage as needed	Minimise risk of pollution.	BAMC	During construction.	See Appendix B.1.
	ES	Air quality: dust management	Implement dust suppression and mitigation techniques (wheel washing, water spraying & sweeping, speed limits etc)	Minimise risk of pollution and nuisance.	BAMC	During construction.	See Section 3.1.4.

Ref	Source	Environmental Aspect	Required Measures	Target Outcome	Responsibility	Timescale	Comments
	ES	Air quality: dust management	The measures to be employed during construction would be expected to include: Regular water-spraying and sweeping of unpaved and paved roads to minimise dust and remove mud and debris; Using wheel washers, shaker bars or rotating bristles for vehicles leaving the site where appropriate to minimise the amount of mud and debris deposited on the roads; Sheeting vehicles carrying dusty materials to prevent materials being blown from the vehicles whilst travelling; Enforcing speed limits for vehicles on unmade surfaces to minimise dust entrainment and dispersion; Ensuring any temporary site roads are no wider than necessary to minimise surface area; Dampening down of surfaces prior to their being worked; Storing dusty materials away from site boundaries and in appropriate containment (e.g. sheeting, sacks, barrels etc); Stock pile heights are limited and damped down in dry weather; Limit the material drop height during bulk transfers. - Where mitigation measures rely on water, it is expected that only sufficient water will be applied to damp down the material and that rainwater harvesting will be pursued. There should not be any excess to potentially contaminate local watercourses.	Minimise risk of pollution and nuisance.	BAMC	During construction.	See Section 3.1.4.

Ref	Source	Environmental Aspect	Required Measures	Target Outcome	Responsibility	Timescale	Comments
	ES	Nature Conservation	Control of construction noise choice of plant and construction methods, together with controls on the hours/days (or seasonality) of working and the phasing of the works to maximise the effects of permanent or temporary noise-reducing topographic features.	No impact on integrity of designated sites from scheme.	BAMC	During construction.	See Appendix B.2.
	ES	Nature Conservation	Manage lighting during construction by minimising lighting at night, and/or use low spill, directed away from bat flight lines and potential roosts (See bat section)	Minimise light pollution and impacts upon bats.	BAMC	During construction	See Section 3.1.6.
	ES	Nature Conservation - Reptiles	Vegetation clearance to be carried out at an appropriate time of year under a PMW overseen by the Ecologist. All retained vegetation to be protected by stabilised Heras fencing or solid fencing to prevent encroachment of machinery.	No impact on local reptile populations	BAMC	During construction	?
	ES	Nature Conservation – General	All excavations should be kept covered to prevent entrapment of any mammals (foxes, deer, rabbit, badgers) If this is not possible a ramp should be created at one end to allow any animal to escape.	No impact on the welfare of local wildlife	BAMC	During construction	?

Ref	Source	Environmental Aspect	Required Measures	Target Outcome	Responsibility	Timescale	Comments
	ES	Noise/nuisance	Use Best Practicable Means for controlling noise and vibration during the construction works such as: Minimise reversing (and therefore the sounding of audible reversing alarms) at all times; Switch off plant and equipment when it is not in use for longer periods of time; Establish agreed site working hours for “normal” construction activities; Establish agreed criteria whilst undertaking significantly noisy or vibration-causing operations near to receptors; Programme works so that the requirement for working outside of normal working hours (for example, for road tie-ins, extended piling works, concrete pours, etc.) is minimised; Ensure all staff and operatives are briefed on the requirement to minimise nuisance from site activities; Use temporary noise screens or partial enclosures around particularly noisy activities, for example pneumatic breakers used in close proximity to dwellings; - Maintain plant on a regular basis.	No complaints from residents due to noise.	BAMC	During construction.	See Appendix B.2.

Ref	Source	Environmental Aspect	Required Measures	Target Outcome	Responsibility	Timescale	Comments
	ES	Noise/nuisance	Provide advance warning of particularly noisy activities to residents and other sensitive receptors to reduce unexpected disturbance and reduce the risk of complaints arising. A reporting system for complaints via a hotline and/or website should be established.	No complaints from residents due to noise.	BAMC	During construction (before high noise activities).	See Appendix B.2.
	ES	Pollution control	Construction practices and design must not create preferential pathways to controlled water (aquifers, Hermitage Stream and Portsmouth Harbour) from contamination sources.	No pollution of waterbodies from construction.	BAMC	During and after works.	See the Remediation strategy
	ES	Ground conditions/contaminated land	An Environmental Consultant must provide advice with respect to contamination and environmental issues to the ground workers via Toolbox talks etc	All staff are informed of environmental constraints and management procedures.	BAMC / Project Ecologist	During works.	Covered under site Toolbox Talk Regime
		Pollution control. Protection of Hermitage Stream.	Manage groundwater and sediment potentially released during construction of bridge foundations: Prepare method statements and erosion and sediment control plan particularly taking note of the topography and close proximity of Hermitage Stream	No impact on integrity of designated sites from scheme.	BAMC	During works.	See Appendix B1

Ref	Source	Environmental Aspect	Required Measures	Target Outcome	Responsibility	Timescale	Comments
	ES	Ground conditions/ contaminated land	Employ suitable working practices (Health, Safety, Environment management systems) and Personnel Protective Equipment during the construction phase particularly during earthworks and foundation construction, e.g. washing hands before eating. Relevant legislation (e.g. Health and Safety Act and COSHH) and guidance (e.g. CIRIA) with respect to working on contaminated sites should be met.	No risk of significant harm to human health.	BAMC	During works.	Covered under site Toolbox Talk.
	ES	Ground conditions/ contaminated land	Airbourne dust should be managed through road sweeping/wheel washing and water spraying.	No risk of significant harm to human health.	BAMC	During works.	See Section 3.1.4.
	ES	Ground conditions/ contaminated land	Identify suitable method statements/working practices to work within vicinity of sensitive Controlled Water bodies associated with the site (Hermitage Stream) . All potential polluting infrastructure (e.g. interceptors) must be suitably decommissioned prior to commencement of construction	No pollution of waterbodies from construction.	BAMC	Pre-clearance works.	See Appendix B1.

Ref	Source	Environmental Aspect	Required Measures	Target Outcome	Responsibility	Timescale	Comments
	ES	Ground conditions/ contaminated land	Should visual or olfactory contamination be encountered work must cease immediately until action is agreed with the Environmental Consultant. Undertake supplementary investigation under the supervision of an Environmental Engineer to identify significance and extent of contamination. Should there be unacceptable risk to humans if the material remains, then it should be removed for either on-site treatment or off-site disposal. Validate resultant excavations to confirm residual concentrations are acceptable and confirm with the Environmental Health Protection Officer of Havant Borough Council.	No risk of significant harm to human health.	BAMC	During works.	See Section 9.
	ES	Pollution control	Provide suitable spill kits at suitable locations near the controlled waterbodies on the site. All operatives must be trained regarding their use and location.	No pollution of waterbodies from construction.	BAMC	During works.	See Section 3.1.1.
	ES	Ground conditions/ contaminated land	Provide a health, safety and environment management system to mitigate or eliminate any unacceptable risk and demonstrate regular external auditing and improvement.	Health, safety and environmental measures are implemented and monitored.	BAMC	During works.	Adheres to ISO 14001
	ES	Ground conditions/ contaminated land	Identify a road traffic plan, minimise the use of open lorries and provide wheel washing facilities.	No risk of significant harm to human health.	BAMC	During construction.	See Appendix F

Ref	Source	Environmental Aspect	Required Measures	Target Outcome	Responsibility	Timescale	Comments
	ES	Surface water management	Place stockpiled material outside of Flood Zone 3 during the construction works.	Minimise risk of pollution following flood events.	BAMC	During construction.	See Section 3.1.1. and the contractor's site management plan.
	ES	Surface water management	Maintain the existing surface water drainage network serving the adjacent Hulbert Road and adjoining land during the construction works. Should the works cause an interruption to the drainage then appropriate temporary diversions of the pipe runs should be carried out.	Minimise flood risk.	BAMC	During construction.	See Section 3.1.1. and Appendix B1.
	ES	Pollution control	Direct any waterborne silt from material stockpiles into temporary drainage channels, and intercept with silt traps located upstream of the outfalls. Provide suitable bunding of fuel storage areas in line with Environment Agency PPG.. Materials should be delivered to and stored in secure areas.	No pollution of waterbodies from construction.	BAMC	During construction.	See Section 3.1.1. and Appendix B1.

3 Management of Environmental Emissions

3.1 Introduction

3.1.1 The following sections detail the manner in which environmental emissions will be managed and mitigated throughout the duration of the contract. These measures will be revised, updated and improved as necessary during the construction process.

3.2 Water Management

3.2.1 Prior to works commencing, all necessary consents, e.g. Discharge Consent, shall be obtained. No discharges or abstractions shall be made until the necessary consents have been granted.

3.2.2 All works will be undertaken in accordance with the EA's PPGs. BAMC shall control surface water runoff during all stages of construction and management using procedures, appropriate temporary diversions and storage where required. The following specific measures will be undertaken.

- BAMC shall identify all watercourses, drains and potential conduits for silt-laden run-off, and where necessary, measures shall be taken to prevent direct or indirect sediment run-off from the working site into watercourses.
- Similarly, all hard standing areas shall be kept clean of mud, debris and oil, and stock piles covered to mitigate any potential pollution incident. Where possible, a strip of vegetated un-stripped ground will be left *in situ* to act as a barrier for silt laden run-off.
- To reduce the pollution risk, the following actions are required:
- Plant and wheel washing is carried out in a designated area of hard standing at least 10 metres from any watercourse or surface water drain
- Run-off is collected in a sump, and recycled and reused where possible
- Discharge of contained water to foul sewer (if possible) with prior permission from the local sewerage provider.

- 3.2.3 Regular inspections of watercourses, drains and ditches shall be carried out, and if necessary mitigation measures shall be put in place.
- 3.2.4 All fuels, oils and chemicals shall be stored in secure, bunded containers, situated greater than 10 metres from watercourse and drains. Where possible, biodegradable oils and fuels shall be used in plant and machinery. Absorbent granules, Spill kits and absorbent booms shall be kept on site and will be well stocked and all personnel be trained in using them in the event of a spill.
- 3.2.5 Spill kits will be located at close intervals to allow rapid response
- 3.2.6 Further pollution prevention measures and incident response are detailed in the Pollution Prevention and Incident Response Plan.

3.3 Vehicle Emissions

- 3.3.1 Most plant and machinery used on site will be powered by diesel engines. All plant and machinery shall be regularly checked, adjusted and maintained to control the emission of excessive exhausts fumes. Any item of plant found to be emitting excessive exhaust fumes shall be replaced.

3.4 Dust

- 3.4.1 The following mitigation measures shall be applied:

- Regular water-spraying and sweeping of unpaved and paved roads.
- Implementing dust suppression and mitigation techniques (using wheel washers, shaker bars or rotating bristles) for vehicles leaving the site.
- Sheeting vehicles carrying dusty materials.
- Enforcing speed limits for vehicles on unmade surfaces.
- Ensuring any temporary site roads are no wider than necessary.
- Dampening down surfaces prior to their being worked.
- Storing dusty materials away from site boundaries and in appropriate containment (e.g. sheeting, sacks, barrels etc).

- Stock pile heights are limited and damped down in dry weather.
- Limit the material drop height during bulk transfers.

3.5 Mud On Roads

3.5.1 Surrounding roads shall be swept regularly using road sweepers, and more frequently during periods of inclement weather and frequent vehicle movements. All road haulage vehicles shall be covered to prevent material spillage onto carriageways.

3.6 Light

3.6.1 Any temporary lights used shall be erected and be positioned or shielded to avoid nuisance to local residents, cause traffic hazards or disturb foraging or roosting bats.

3.7 Noise and Vibration

3.7.1 Operational Noise was identified as a potential impact in the Environmental Statement.

3.7.2 A method statement for noise and vibration control prepared by BAMC is reproduced in Appendix B.2.

3.7.3 The Contractor is required to comply with the provisions of the statutory code of practice BS5228:2009 Noise Control on Open and Construction Sites and The Control of Noise at Work Regulations 2005.

3.8 Storage and Handling of Fuel and Lubricants

3.8.1 All diesel shall be stored in integral bunded fuel bowzers designed to hold 110% of the contents of the tank. Fuel shall be stored at 20 metres from watercourses, ditches and drains.

3.8.2 Oils and lubricants shall be stored on drip trays at all times and be kept in locked containers. Temporary storage areas for oil storage drums shall be designated on site, clearly signed and sited away from machinery and plant.

- 3.8.3 All fuel/oil storage areas shall be equipped with spill kits and absorbent granules. All relevant personnel shall be trained in the use of such materials.
- 3.8.4 Further details on fuel/oil storage and response procedures are available in the Pollution Prevention and Incident Response Plan which is available upon request

3.9 COSHH

- 3.9.1 A Control of Substances Hazardous to Health (COSHH) store will be maintained at the Site Compound. COSHH Regulations 2002 assessment and material data sheets shall be held with any COSHH relevant materials which will be held within a bunded storage container. A register shall be created, maintained and updated as necessary.
- 3.9.2 All site personnel and sub-contractors will be made aware of the COSHH requirements. Regular inspections of the COSHH storage container shall identify any corrective actions required.

4 Waste Management

- 4.1.1 In accordance with BAM's project management policies and protocols a Site Waste Management Plan compliant with the former Site Waste Management Regulations (SWMP) 2008, will be produced for the project by BAMC.

5 Management of Ecological Issues

- 5.1.1 For further detail / references on any aspect of these items, refer to the specific survey reports contained in the Environmental Statement, Volume 3 and recent Ecological Impact Assessments for Plot 4a.
- 5.1.2 Vegetation clearance where required is to be undertaken with due regards to dormice, reptiles and breeding birds. It will be done under a strict Precautionary Method of Working (PMW) which will be prepared by Atkins. *If a dormouse is found, all works in the area will cease until appropriate measures have been put in place for works to continue. In such circumstances a licence from Natural England may be required before works can continue.*

5.2 Vegetation Clearance

- 5.2.1 All anticipated vegetation clearance in relation to the proposed development of plot 4a was undertaken under an ecological watching brief during late winter 17-18.
- 5.2.2 If further vegetation removal becomes necessary during the course of the works the appointed ecologist will be consulted prior to the works taking place and an Ecology watching brief mobilised where recommended by the appointed ecologist.

5.3 Wintering Birds

- 5.3.1 The survey area was thought to support a fairly typical range of winter bird species for the habitat present and geographic location.
- 5.3.2 The maximum counts for the notable species recorded within the survey area is low compared to the estimated county populations. Therefore the survey area is not of national or county importance for wintering birds. However, much of the area surrounding Dunsbury Hill Farm is developed housing and therefore the wintering bird population within the survey area is considered to be of local importance.
- 5.3.3 No Brent geese were recorded during the wintering bird surveys; it is considered unlikely that these birds would forage within the plot 4a site area. Therefore the proposed development will not affect this species. Therefore, a formal Habitats Regulations Assessment is not required in relation to site impacts on this species.

5.4 Breeding Birds

- 5.4.1 The range of breeding bird species and the number of notable species and confirmed territories is thought to be typical of the habitat present and geographic location of the survey area.
- 5.4.2 The number of breeding pairs of notable species within the survey area is low compared to the county populations. Therefore the survey area is not of national or county importance for breeding birds. However, much of the area surrounding Dunsbury Hill farm is developed housing and therefore the breeding bird population within the survey area is considered to be of local importance.
- 5.4.3 Vegetation clearance with the potential to effect nesting birds will be undertaken outside of the nesting season as described above. The PMW will expand on the full detail of precautions to be taken.

5.5 Bats

- 5.5.1 The field margins, hedgerows and woodland provide good habitats for bats. These habitats attract insects which encourage foraging bats. In addition tree lines, woodland edges and hedgerows in particular are used as flight lines for both commuting and foraging. Areas of woodland have the potential for roosting and hibernating bats, particularly where mature trees have features, such as cracks, woodpecker holes, loose bark and dense ivy covered limbs.
- 5.5.2 Numerous trees across the wider site have been identified as having bat roosting potential. These include mature/veteran oak trees within all surrounding SINC's, mature oak trees along Park Lane and along the bridleway to the north of the site that leads into Dunsbury Hill Wood, and individual mature trees located within the footprint of the proposed link road.
- 5.5.3 Annex II bats have been identified within the Application Site and Wider Site (Bechstein's bat caught in woodland approximately 200 m south of the Application Site in 2015 and potential Bechstein's bat call records from activity surveys of hedgerows H1-3 in 2017; and barbastelle bat commuting along H3 during activity surveys in 2017) and other bat species using the hedgerows adjacent and connected to the Application Site to commute/forage, there is potential for disturbance and habitat fragmentation caused by noise and/or inappropriate lighting. However, providing the design features and mitigation measures outlined in Section 4 regarding protection of the hedgerows and no night working/lighting during construction and a sensitive lighting scheme employed during operation are implemented, no significant adverse effects are anticipated on Annex II bats or other bat species.

5.5.4 Mitigation measures are discussed in the Ecology chapter of the Environmental Statement and further detailed in the plot specific Ecological Impact Assessment and summarised in the Mitigation Table under section 2, above.

5.5.5 Eight Schwegler bat boxes were installed in Cherry Tree Row SINC as part of the previous Plot 2 development

5.6 Reptiles

5.6.1 Adder, grass snake, slow worm and common lizard are present across the Dunsbury Park Site and these widespread reptile species are all included in the UK Biodiversity Action Plan as Priority Species of Conservation Concern, and are also included in the Highways Agency Biodiversity Action Plan.

5.6.2 The original surveys for the ES were undertaken were for presence/absence only and could not be used for an estimated population size assessment. Adders were translocated from Plot 2 hedgerow in 2015. Reptiles are likely to still be present in the grass and woodland margins of Plot 4a including bracken areas. All vegetation clearance will be carried out under a Precautionary Method of Working with regard to reptiles. Retained vegetation will be protected with heras fencing to avoid any impact to reptiles.

5.6.3 The majority of the wider site is arable land which is unsuitable habitat for reptiles. The habitats that are most suitable for reptiles are areas of grassland and scrub (including Dunsbury Hill Grassland SINC and Highways Agency Hulbert Road verge outside the site boundary), hedgerow bases, grass and scrub margins of Park Lane and woodland edges of Beech Wood East SINC and Cherry Tree Row SINC.

5.6.4 Any reptiles found (low numbers only) within the Site will be moved by an experienced ecologist to either grassland to the south of plot 3 or grassland to the east of Plot 6 (in the case of Adders)

5.7 Amphibians

5.7.1 No ponds are located within the Plot 4a site boundary.

5.8 Water Vole and Otters

5.8.1 No signs of water voles in the Hermitage Stream were recorded from the water vole survey undertaken in 2002 (Blunden, 2002).

- 5.8.2 The Hermitage Stream in its current condition offers limited potential for both water voles and otters, and no signs were found of either species during the survey undertaken in 2013. Neither of the species was recorded from the desk study nor the survey, and therefore no specific mitigation is required for water voles and otters.

5.9 Dormouse

- 5.9.1 Dormice have been recorded across all the survey areas, suggesting they are using all suitable habitat within the site. The presence of juveniles indicates that there is a successful breeding dormouse population in the area.
- 5.9.2 Densities of dormice are naturally thought to be quite low in England, compared with other small mammals. In early summer there are typically only 3 to 5 (but sometimes up to 10) adults per ha in deciduous and coniferous habitats (Bright et al 2006).
- 5.9.3 The presence of hazel dormice in the hedgerows bordering and connected to the Application Site means there is potential for disturbance and habitat fragmentation caused by noise and/or inappropriate lighting.
- 5.9.4 A series of mitigation measures will need to be put in place regarding any woodland and scrub vegetation to be affected because of the legal protection afforded to the dormouse as a European Protected Species. Proposed mitigation measures are discussed in the Ecology chapter of the Environmental Statement and Ecological Impact Assessment.

6 Management of Earthworks

6.1 Handling and Storage of Spoil

- 6.1.1 Topsoil stripping and reinstatement operations shall only be carried out in suitable conditions, preferably during periods of dry weather. Topsoil shall be stored in stacks no higher than 4m, and shall be stored at least 10m metres from any watercourse unless space prevents this. In which case, suitable protection shall be implemented between the two to prevent pollution. There shall be no mixing of topsoil and subsoil.
- 6.1.2 Further details on topsoil/subsoil reinstatement operations shall be included in the project Reinstatement Plan which is available upon request.

6.2 Use of Herbicides

- 6.2.1 If required, topsoil stacks shall be sprayed with an appropriate herbicide to prevent unwanted weed colonisation. Only trained sub-contractors shall apply herbicides. Contractor's certificates of competency shall be inspected prior to spraying works being carried out, and a record shall be kept of all locations treated. A glyphosate herbicide shall be used, and permission sought from the (EA) if they are to be used close to watercourses.

6.3 Contaminated Land

- 6.3.1 Following topsoil stripping, a visual inspection shall be made of the subsoil. If contamination is suspected, i.e. odour present, visual ground anomalies, works shall cease immediately. The affected area shall be fenced and warning signs erected.
- 6.3.2 If contaminated land is identified, the EA shall be notified immediately. Arrangements shall be made for appropriate laboratory analysis of the material to be carried out, and an appropriate risk assessment completed. Guidance will then be sought from the EA on the appropriate disposal/remedial actions required.

6.4 Archaeology

- 6.4.1 Following archaeological investigations undertaken on the wider Dunsbury Park site the Hampshire County Archaeologist has confirmed that there is a low risk of encountering items of interest within the plot 4a site, and that a site archaeological investigation is therefore not required.

7 Vehicular Traffic

- 7.1.1 Following consultation with the Highways Authority and relevant third parties, access routes for all construction traffic, deliveries and related vehicle movements to site shall be detailed in BAM's Traffic Management Plan. Access to the site shall be via agreed routes only.
- 7.1.2 Dedicated site parking areas within the boundary of the wider site set up shall be created and maintained to allow site traffic to park away from residential parking areas.

7.2 Public Rights of Way

- 7.2.1 The area has public rights of way, and as such these will need maintained and works suitable protected from members of the public

8 Pollution Prevention and Emergency Response

8.1 Introduction

- 8.1.1 Arrangements for dealing with spills, leaks, bentonite breakout, unplanned emissions, unplanned damage to the environment and other environmental incidents are detailed in the Pollution Prevention and Incident Response Plan which can be found within the site office. Staff on site will be trained for implementation of the Incident Response Plan. An emergency contacts list, including the Environment Agency Incident Hotline, shall be produced and available on site and can be seen below.
- 8.1.2 All works will be undertaken in accordance with the EA's PPGs.
- 8.1.3 All plant and machinery shall be checked for leaks of fuel and lubricants before being brought onto site. Refuelling of machinery will take place in a designated area >10m from any watercourse or drain and will be undertaken by designated, trained staff.
- 8.1.4 An adequate supply of pollution control equipment, e.g. spill kits, absorbent granules, booms shall be kept at each construction site, and all site personnel shall be trained in their use.
- 8.1.5 All pumps, generators and lighting towers used on site will have integral bunds/drip trays where possible. Where this is not possible, drips trays, preferably interceptor type shall be placed beneath all such items of plant.

8.2 Emergency Procedures

- 8.2.1 The following is an outline of how to respond to an environmental incident:

What is an environmental incident?

An environmental incident is a situation that could potentially damage the natural environment, pose a risk or distress to wildlife including fish and/or pollutes the water body itself.

What to do an environmental incident

All environmental incidents and near misses shall be reported to the Project Manager as soon as practicable. Significant environmental incidents shall be reported immediately to the Site Manager, Project Manager and Project Ecologist. If appropriate, the relevant statutory authority, e.g. the EA shall also be informed as below:

If a pollution incident occurs at or from the site then the Environment Agency should be contacted immediately on the Incident Hotline telephone number 0880 80 70 60.

The EA will request the following information:

- **Your name & number**
- **Principal Contractor Name**
- **Name of the site/project including the name of the watercourse.**
- **Describe the incident:**
- **Date/time first noticed**
- **What is the pollutant?**
- **How serious is it?**

You must keep a record of the incident number which will be provided to you during the telephone conversation.

Following this a local Environment Agency Pollution Incident Officer will contact you at the site to discuss the incident, what mitigation has been implemented and arrange a site visit.

9 Monitoring and Review, Auditing and Corrective Actions

9.1 On Site Monitoring

- 9.1.1 A weekly checklist of key issues, e.g. waste management, pollution control, oil/fuel storage etc, has been produced and shall be carried out by the Environmental Advisor/Site Manager. Findings shall be reported to the Project Manager in a timely manner and rectified on-site immediately. Major findings shall be reported to the Project Manager and the appropriate corrective actions taken.

9.2 Compliance Auditing

- 9.2.1 Monthly audits shall also be undertaken by the contractor to ensure compliance with this CEMP, including waste management, pollution prevention and consent/licence conditions. Copies of the audits, including findings and close out actions shall be transmitted to the PCC who will then circulate amongst the project team and any other interested parties. A copy of the monthly environmental audit and weekly inspection checklist is presented in Appendix E.

9.3 Environmental Monitoring

- 9.3.1 Regular monitoring of water quality, drainage systems, noise-sensitive locations, traffic and other sensitive receptors shall be carried out as necessary. A schedule can be provided upon request.
- 9.3.2 Results/reports from this monitoring shall be maintained and made available to any interested parties.

9.4 Review of the CEMP

- 9.4.1 The overarching Environmental Management Plan will be monitored according to details set out within this document and associated related plans to specify how achievement of performance requirements of ecological and landscape elements are to be controlled and monitored).

9.4.2 The results of monitoring will be reported to PCC's Project Manager on a routine basis (as set out in the CEMP and Landscape and Ecological Management Plan). Where the scheme is failing its performance objectives, amendments shall be made to the CEMP or other environmental related plans (whichever is relevant for the stage of the scheme) in order to address the issues of concern and improve the environmental management regime. Relevant stakeholders (to include statutory bodies) will be consulted where relevant.

Appendix A

Environmental Master Plan

Appendix A Environmental Master Plan

Please note – this Environmental Master Plan is a combination of live documents from several contributors that will be updated where necessary to reflect new information.

Refer to Individual live documents (PBA, and ATKINS)

Appendix B

Method Statements

Appendix B Method Statements

Method statements contained within this section:

B.1 Erosion/ Sedimentary Control Plan

B.2. Noise & Vibration

B.1 Erosion/ Sedimentary Control Plan

Due to the close proximity to the site of extensive water courses careful consideration is required to prevent site run off and silted water generated from the site contaminating the local water environment.

During the construction process there will be the requirement to remove the existing vegetation and topsoil. The removal of this surface will result in the potential of site run off having silt particles suspended within it. To prevent this run off from coming into contact with the surrounding water courses, temporary bunds are to be constructed to prevent run off from leaving site. The bunds will channel the water into a holding lagoon where it will be dealt with by either:

- Pumping through a settlement tank prior to discharge
- Pumping over a dedicated grassland as directed by the site environmental supervisor to allow the vegetation to filter the silty water
- Discharging through a straw bale filtration area.

Controls to prevent uncontrolled runoff into watercourses will be put in place and agreed with the EA where required.

Where dewatering of excavations is required, this will be carried out in accordance with the EA position statement Temporary Water Discharges from Excavations.

There is potential for site run off to discharge into the existing drainage system via gully outlets or similar. These gullies are to be decommissioned and alternative drainage is to be installed to prevent the road from flooding.

Suitable spill kits will be provided at suitable locations near the controlled watercourse on site. All operatives will be trained regarding their use and location.

When pumping anything other than clean uncontaminated rainwater, a settlement tank is to be used to remove suspended solids and if required, hydrocarbons.

Fuel / oil and chemical storage along with all refuelling will take place within the site compound area which is at least 10m away from water courses or surface / foul drainage.

Concrete washout will be undertaken into a lined skip or pit and will not take place within 10m of a watercourse or surface / foul drainage.

Wash waters from wheel washing will not be allowed to enter water courses or drainage.

Any waterborne silt will be directed from material stockpiles into temporary drainage channels, and intercept with silt traps located upstream of the outfalls.

Suitable bunding of fuel storage areas will be provided in line with the EA's PPG. A flood defence consent will be sought from the EA where works are required in, over or within 8m of a main river – Prior to works on or near the Hermitage Stream

B.2. Noise and Vibration

Excessive noise and vibration not only represents a major hazard to site workers, but can annoy neighbours and give rise to complaints and delays and also disturb wildlife. BAMC will control and limit noise and vibration levels so that affected properties and other sensitive receptors are protected from excessive noise and vibration levels associated with construction activities.

Best Practical Means (BPM) will be employed which will balance noise and vibration against the works to be completed. The following factors will be considered:

- Proximity to residents
- Duration of the works
- Time of day the works are to be undertaken
- The engineering practicability and safety

The noise control hierarchy will be implemented – Eliminate > Substitute > Isolate > Control – to minimise the effect of operations and plant and machinery on neighbours

All staff and operatives will be briefed on the requirement to minimise nuisance from site activities

Site working hours for “normal” construction activities have been established. Working hour restrictions that have been placed on the project will be adhered to.

Night time works will only be undertaken where there is no alternative. Noisy night time works will be undertaken with extra vigilance to avoid inadvertent excessive noise.

Where works adjacent to sensitive receptors are unavoidable, the construction method utilised will be chosen to minimise noise and vibration.

Where possible, noise and vibration will be controlled at source.

The use of alternative vehicle reversing alarms shall be implemented to mitigate nuisance to local residents during mobilisation, demobilisation and material delivery periods.

Plant and equipment will be switched off when it is not in use. Plant shall be positioned so that emissions do not cause nuisance to neighbours or sensitive receptors.

Where possible, all pumps, generators, lighting towers and miscellaneous plant shall be super-silenced, and be regularly inspected and maintained to ensure noise levels do not exceed acceptable levels.

Where noise cannot be avoided, screening and acoustic enclosures will be utilised to minimise noise transmission off the construction site. Cut off trenches will be created where excessive vibration is likely to be transmitted off site.

The site layout will be created and maintained to avoid creation of unnecessary noise and vibration, e.g. one way traffic routes created and haul routes regularly inspected and maintained.

Where our works are likely to cause disturbance to neighbours or other sensitive locations noise / vibration monitoring will be carried to ensure effects are measured. Additional controls will subsequently put in place should any issues arise. Background readings will be undertaken in these circumstances so ongoing monitoring can be assessed against noise levels prior to works commencing to reduce the risk of complaints arising.

Plan deliveries will be maximised with the use of haul routes and times to minimise potential nuisance to the local community.

Local communities will be kept informed at all times as to the nature of works, e.g. working hours, weekend working via PCC website, Facebook and Twitter.

Residents will be warned in advance of particularly noisy activities, using various communication channels.

Appendix C

Monitoring and Measurement

Appendix C Monitoring and Measurement

This section includes details of how the environmental performance of the contractor and sub-contractors will be measured. It sets out a monitoring checklist to be completed by the Environmental Coordinator during routine site inspections.

The results of monitoring during the construction programme will be issued to the Portsmouth City Council project manager and relevant statutory organisations as set out in the CEMP.

Dunsbury Park Construction Environmental Monitoring Form

Environmental Issue	Monitoring Question	Yes/No	Comments
Ecology			
At commencement:			
Dormouse	Has the project ecologist completed a walk over prior to entering area?		
Dormouse	Has the project ecologist installed dormouse boxes?	Yes but not as part of Plot 4a mitigation.	(boxes installed under Plot 2 licence in Cherry Tree Row and are monitored
Vegetation Clearance	Have appropriate vegetation clearance methods been employed where relevant to avoid the potential killing or injuring of nesting birds and reptiles?	Yes	Boundary vegetation (woodland edge scrub) has been trimmed back to facilitate development in April 2018 overseen by an ecologist with regard to reptiles, dormice and birds
Reptiles	Has a suitably qualified individual (i.e. An ecological watching brief, Ecological Clerk of Works) been present during relevant activities to carry out a destructive search for reptiles?	Yes – for woodland and scrub clearance.	

Environmental Issue	Monitoring Question	Yes/No	Comments
Reptiles	If necessary has reptile translocation been completed and successful?	N/A	
Bats	Have any trees to be lost been inspected for roosting bats	N/A no trees lost within the development Site	Ecologist to be contacted should any trees within Cherry Tree woodland require any pruning or felling
Ongoing:			
Bat flight lines	Have all potential bat flight lines been kept clear from obstructions and impacts from lighting		
Dormouse habitat	Has retained dormouse habitat (woodland edge) been protected during construction		
Reptiles	Grass kept short to prevent reptiles	N/A – Site now levelled.	
At completion:			
Bat boxes	Are bat boxes of various types still installed		
Landscape Planting	Has landscape planting been completed		
Pollution Prevention			
Ongoing:			
Surface Water Runoff	Are all temporary bunds to		

Environmental Issue	Monitoring Question	Yes/No	Comments
	prevent surface water run off and sediment control intact and in the right location?		
Removal of Sedimentation	Are suitable methods for removing sediment from surface water runoff employed and working effectively?		
Dewatering of excavations	Where dewatering of excavations is required, has this been carried out in accordance with the EA position statement Temporary Water Discharges from Excavations?		
Spill Kits	Have suitable spill kits been provided at suitable locations near the controlled watercourse on site?		
Spill Kits Training	Have all operatives been trained regarding the use and location of spill kits?		
Settlement Tank	When pumping anything other than clean uncontaminated rainwater, has a settlement tank been installed and used to remove suspended solids and if required, hydrocarbons?		
Fuel Storage	Is fuel / oil and chemical storage along with all refuelling taking place within the site compound area which is at least 10m away from water courses or surface / foul drainage?		

Environmental Issue	Monitoring Question	Yes/No	Comments
Fuel Storage	Have you ensured that all bowzers and fuel storage units are free from leaks and sealed properly?		
Wash Waters	Are all wash waters from wheel washing prevented from entering water courses or drainage?		
Silt / sediment removal	Is waterborne silt directed from material stockpiles into temporary drainage channels, and intercept with silt traps located upstream of the outfalls?		
Silt / sediment removal	Are drainage channels clear from blockages?		
Flood Defence Consent	Has a flood defence consent exemption been applied for and granted?		
Dust Suppression	Have dust suppression and mitigation techniques (wheel washing, water spraying & sweeping, speed limits etc) been implemented?		
Road Sweeping	Are road sweepers active throughout normal working hours?		
Sheeting Vehicles	Are all delivery vehicles sheeted to prevent dust and material from escaping?		
Lighting	Have temporary lights been used and erected no more than 5m in height and positioned or shielded		

Environmental Issue	Monitoring Question	Yes/No	Comments
	to avoid nuisance to local residents, cause traffic hazards or disturb foraging bats?		
Waste			
Ongoing:			
Waste Transfer Notes	Have all appropriate Waste Transfer Notes been collected and are they complete?		
Consignment Notes	Have all appropriate Consignment Notes been collected and are they complete?		
Noise:			
Ongoing:			
Staff Briefing	Have all staff and operatives been briefed on the requirement to minimise nuisance from site activities?		
Working Hours	Are normal working hours being adhered to?		
Vehicle reversing alarms	Have the use of alternative vehicle reversing alarms been		

Environmental Issue	Monitoring Question	Yes/No	Comments
	implemented to mitigate nuisance to local residents during mobilisation, demobilisation and material delivery periods?		

Appendix D

Organisation and Roles

Appendix D - Project Directory, Organisation and Responsibilities.

Company	Contact	Role	Address	Tel No	Mobile No	E-mail Address
Client						
Portsmouth City Council Housing Management	Kevin Hudson	Project Manager	Civic Offices, Guildhall Square Portsmouth PO1 2AY	02392 841 142	07535 664072	kevin.hudson@portsmouthcc.gov.uk
Portsmouth City Council Housing Management		Senior Asset Manager	Civic Offices, Guildhall Square Portsmouth PO1 2AY			
Portsmouth City Council Housing Management	Nick Butler	Delivery Manager	Civic Offices, Guildhall Square Portsmouth PO1 2AY		07717 336220	Nicholas.butler@portsmouthcc.gov.uk
Mace	Andrew White	Project Manager				Andrew.White@macegroup.com
Mace Cost Consultancy	Oliver North	PQS	Anglo St James House 39a Southgate Street Winchester SO23 9EH	01962 676914	07881 091382	Oliver.North@macegroup.com
Mace Cost Consultancy	Shaun Mclean	PQS	Anglo St James House 39a Southgate Street Winchester SO23 9EH	01962 676914	07795 834723	Shaun.Mclean@macegroup.com
Atkins	Caroline Ford	Environmental & Ecologist Assessors	Woodcote Grove Ashley Road Epsom KT18 5AL	023 8081 0440		Caroline.Ford@atkinsglobal.com

Consultants						
BAM Design (Architecture)	Jeff Carter	Architecture Associate	Centrium Griffiths Way St Albans Hertfordshire AL1 2RD	01727 894200		jcarter@bam.co.uk
BAM Design (Structures)	Robert Gray	Structural Engineer	Centrium Griffiths Way St Albans Hertfordshire AL1 2RD	01727 894200		rgray@bam.co.uk
BAM Design (Mechanical Services)	David Burton	Building Services Engineer	Centrium Griffiths Way St Albans Hertfordshire AL1 2RD	01727 894200		dburton@bam.co.uk
BAM Design (Electrical Services)	Jim McNicholas	Building Services Engineers	Centrium Griffiths Way St Albans Hertfordshire AL1 2RD	01727 894200		jmcnicholas@bam.co.uk
BAM Design (Public Health Services)	Steve Bliss	Building Services Engineer	Centrium Griffiths Way St Albans Hertfordshire AL1 2RD	01727 894200		sbliss@bam.co.uk
FIRA (Landscape Architect)	Victoria Phillips	Landscape Architect	The Jewellery Business Centre Spencer Street Birmingham B18 6DA	0121 523 1033		victoria.phillips@fira-la.com

Construction Team						
BAM Construction Ltd	Anthony Nagle	Construction Director	Centrium Griffiths Way St Albans Hertfordshire AL1 2RD	01727 894200		anagle@bam.co.uk
BAM Construction Ltd	John Rixon	Commercial Manager	Centrium Griffiths Way St Albans Hertfordshire AL1 2RD	01727 894 337	07885 913697	jrixon@bam.co.uk
BAM Construction Ltd	John Gilmour	Project Manager	BAM Site Office Dunsbury Park Fitzwygram Way Havant PO9 4EE		07827 826054	jgilmour@bam.co.uk
BAM Construction Ltd	David Patten	Project Surveyor	BAM Site Office Dunsbury Park Fitzwygram Way Havant PO9 4EE		07810 552815	dpatten@bam.co.uk
BAM Construction Ltd	Ashley Hollingdale	Project Planner	Rownhams House Rownhams Southampton SO16 8LS	02380 747000		ahollingdale@bam.co.uk
BAM Construction Ltd	Luke Heathcote	Senior Design Manager	BAM Site Office Dunsbury Park Fitzwygram Way Havant PO9 4EE		07500 331672	lheathcote@bam.co.uk