

Construction Environmental Management Plan

Cherryfield Drive, Kirkby



Barratt David Wilson Homes NW

March Rev B

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INTRODUCTION

This Construction Environmental Management Plan (CEMP) is intended to form the basis for the management of the main environmental aspects associated with the construction of a residential development which will be providing a total of 807 residential homes.

The CEMP sets out how the commitments will be translated into actions in the field and the means by which they will be monitored and verified. It will form part of the Construction contracts and will therefore be contractually binding. It outlines the environmental commitments that are to be delivered by the Principal Contractor's.

The Site and Surrounding Area

The subject site is a large irregular shaped parcel of land located to the south of Cherryfield Drive in Kirkby. The southern sector of the site comprises maintained grassland with an area in the southeast of the site having recently undergone the felling of semi-mature trees. The central sector of the site is currently unmaintained vacant grassland. Within the north of the site, is an area of active car park and former roadways and hardstanding associated with previous development.

Knowsley community college is located in the northwest of the site with a Covid-19 Walk-through Testing Centre. There is an additional area of vacant land with areas of hardstanding associated with former development, with a small building fronting Cherryfield Drive.

Site History

Historical mapping indicates that the site was undeveloped until the 1960's, with the subsequent construction of the college campus in the northwestern sector and a school in the south eastern sector. Circa 1961, historical mapping shows earthworks associated with the adjacent landfill site, by 1976 the landfill is no longer shown.

Residential dwellings and retail buildings, including a fuel station and electrical substation, are shown at the northern site boundary pre-1961. Aerial imagery indicates the South-Eastern sector of the site was cleared pre – 2011, the hotel pre-2012, the residential housing pre-2015, the college in the North West pre 2016 with the remainder of buildings in the north of the site demolished by pre 2019 and pre 2021. There is currently no evidence of the fuel station above ground however it is understood the underground storage tanks are still present.

At present the site is largely vacant, with the former roads and hardstanding at the north of the site and areas of car parking associated with the now demolished school and college. A building associated with the former college remains in the north-western sector.

Roles and responsibilities

Site Management – Mark Cookson - Construction Director
2nd Floor, 303 Bridgewater Place
Birchwood Park
Warrington, WA3 6XF

CDMC – Tony Sutton - Technical Director
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Site Communication

Communication Method	Frequency	Attendees	Environmental Points for discussion	Method of recording
Contracts Managers Meetings	Monthly	Contract Managers & Site Managers	Waste Management, Nuisance, Environmental Incidents etc.	SHE Form 18
Contractor/Sub Contractor Meetings	Monthly	Head of Contractor, Contracts Manager, Site Manager, Quantity Surveyor	Waste Management, Nuisance, Environmental Incidents etc.	Action Log
Toolbox Talks	As Required	All site personnel	Toolbox Talks will be used to inform all site personnel of key information concerning the management of the site, procedures to be followed and expected conduct when working on the project. The toolbox talks will cover a broad range of topics including those related to best practice	SHE Form 21
Site Induction	As required	Employees or Contractors new to the site	Health and Safety procedures and specific site rules	SHE Form 88
Site Manager daily diary	Daily	Site Manager/Assistant Site Manager	Monitors and registers, daily up keep of site and covers general duties	SHE Form 16

DESCRIPTION OF WORKS

Our proposed residential scheme comprises of 807 Barratt and David Wilson Homes dwellings and includes a mixture of dwelling types such as detached, semi-detached, terraced and apartment properties.

The overall development will provide a mixture of 2, 3 and 4 bed homes to accommodate the rise in demand for family homes within the area.

Due to varying ground conditions found on this development, there is to be a mixture of foundation types to be used which are Pile foundations, Traditional Strip foundations, Deep Strip Foundations & Trench Fill foundations.

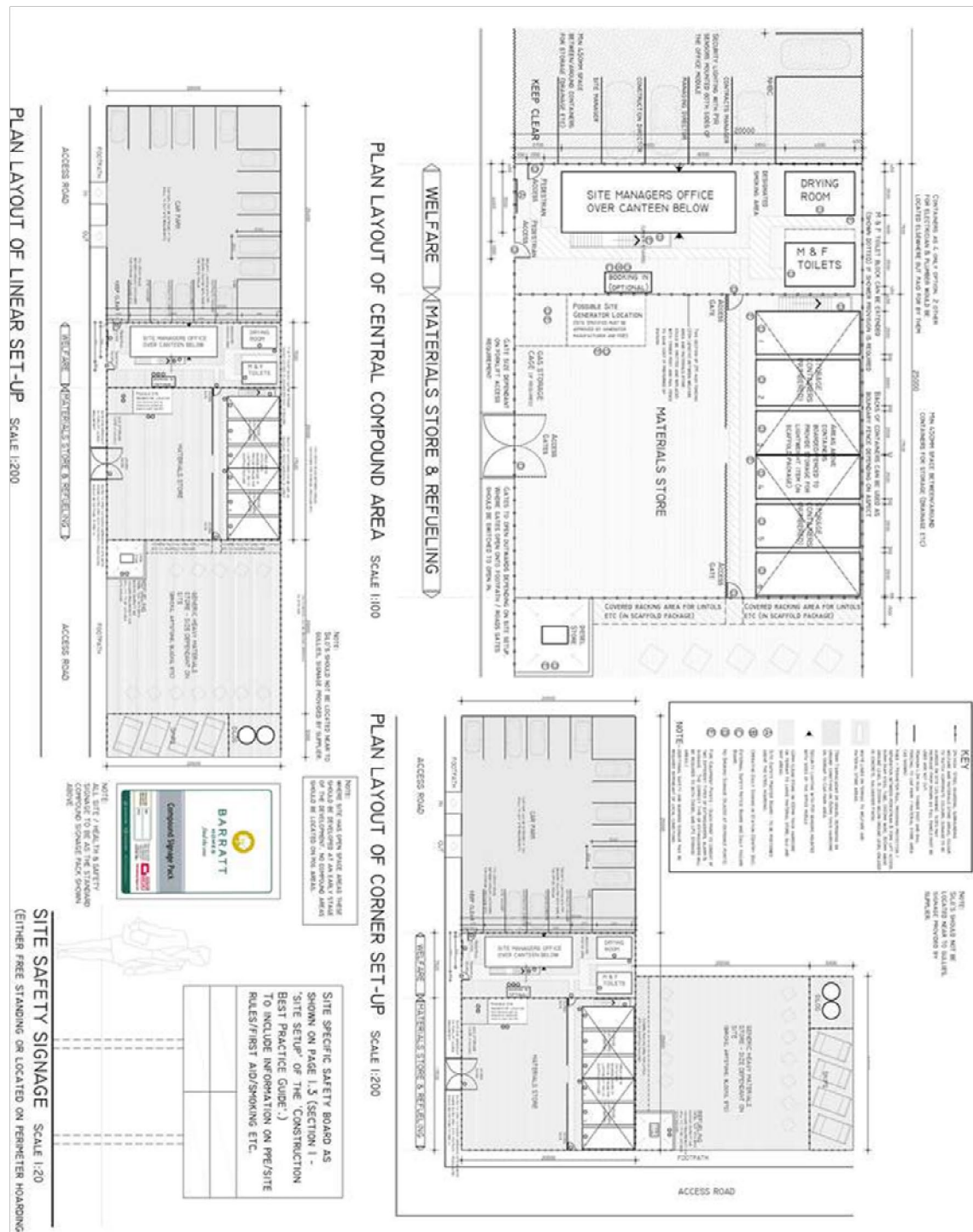
CONSTRUCTION PROGRAMME

Below is a copy of our Execution Plan, which indicates the construction route for both the Barratt & DWH phases. The proposed roads on this development will be installed in accordance with the construction route.

Our Execution plan also identifies the position of the Barratt & DWH compounds, which will consist of site manager office, welfare facilities, storage areas, contractor car parking etc. (Please see typical site compound layout)



CONSTRUCTION WELFARE FACILITIES PLAN



ENVIRONMENTAL CONSTRAINTS AND RECEPTORS

Working Hours

The site “core hours” will be Monday – Friday 07.00-18.00 and Saturday 07.00- 14.00; there will be no works programmed for Sundays or Bank Holidays unless otherwise agreed. Prior approval will also be sought from the Council for operations such as earthworks or concrete pouring which, can be seasonal and weather dependant.

For certain types of activities e.g. work that entails the possession of a road, works for reasons of public safety, site logistics operations or work within buildings, evening, night time, additional weekend Sunday and Bank Holiday working may be required. The Council will be engaged during the planning and operation of any such activities.

Noise Limits

In accordance with good practice, construction activities that elevate noise levels, measured as LAeq (1hr) by more than 1dB above ambient level at the front of any noise sensitive premises, may not take place outside of normal hours of work.

Ecologically Sensitive Area

The site is not within an ecologically sensitive area.

Construction Site Layout and Good Housekeeping

In planning the construction site layout, the contractor will ensure that a good housekeeping policy is applied at all times, and as far as reasonably practicable; that amongst other things:

- Existing hedges tree screens and the topography will be utilised to screen construction sites; temporary earth mounding or other temporary screening will also be included where appropriate, within the confines of the construction site;
- All site hoardings will be regularly inspected, repaired and repainted as necessary;
- All working areas will be kept in a clean and tidy condition;
- Wheel washing facilities will be brushed or spray cleaned frequently;
- Adequate toilet facilities will be provided for all site staff;
- Rubbish will be removed at frequent intervals and the site kept clean and tidy;
- Food waste will be removed at frequent intervals;
- Any waste susceptible to spreading by wind or liable to cause litter will be stored in enclosed containers;
- Open fires will be prohibited at all times

All necessary measures will be taken to minimise the risk of fire and the contractor will comply with the requirements of the local fire authority;

Storage sites, fixed plant and machinery, equipment and temporary buildings will be located to limit adverse environmental effects;

All external lighting and illumination associated with the construction process will be in accordance with the guidance issued by the Institution of Lighting Engineers: “Guidance Noted for the Reduction of Light

Pollution” and the CIE (International Commission on Illumination) Report: “Guide on the Limitation of the Effects of Obtrusive light from Outdoor Lighting Installations”;

To ensure that construction lighting does not affect the amenity of residents or create a statutory nuisance under the Environmental Protection Act 1990 as amended, external lighting will be designed and positioned to provide the minimum levels necessary for safe working.

The construction lighting will:-

- Avoid disturbance to adjoining residents and occupiers;
- Avoid creating dazzle or distraction for drivers using adjacent highways or the railway;
- Seek to minimise light spillage or pollution;
- Ensure that excess light does not fall on sensitive ecological habitats;
- Energy efficient options for site facilities will be incorporated wherever possible. They may include energy efficient light bulbs and automatic controls, which will supplement good housekeeping such as switching off equipment when not in use;
- Adequate security will be exercised by the contractor to protect the public and prevent unauthorised entry to or exit from the site. Compound gates will be closed and locked when there is no site activity and site security measures will be implemented; and
- Any site cameras will be located and directed so that they do not intrude into occupied residential property.

Wheel Washing Facilities

During the initial groundworks, all Lorries and other construction vehicles coming into the site will be washed with a manually operated jet wash on exit as detailed below.

It is not anticipated that during the construction period there will be significant construction vehicle movements in and out of the site, as most of these site vehicles will be remaining on site during the construction of this development.

Notwithstanding the above, on the occasion that vehicles do leave the site, then the following temporary systems will be put into place:

- Hardstanding Areas
- Manually operated jet wash
- Manual inspection of vehicles to ensure there is no loose debris.

The wheel wash or manually operated jet wash will be located near to the main entrance of our proposed development, as shown on the location plan below by the yellow triangle and the exact location will be determined once the main site entrance has been established.

The facility will be installed by us (Barratt & DWH) and will be fully operational prior to the commencement of construction of this development.

Vehicles will be directed to use the wheel wash during times of wet weather, when site conditions dictate its use and/or when the site management consider the use of the wheel wash will safeguard the condition of the highway outside of the site.

In event of mud actually being tracked on to the lane, the contractor would be responsible for ensuring that Cherryfield Drive is mechanically brushed and washed to clear away any debris as soon as possible.

Environmental Receptors

These are the environmental receptors that will be impacted by the following Environmental aspects from this project:

- Air quality will be impacted by:
 - Dust
 - Fumes.
- Neighbours:
 - Noise;
 - Dust;
 - Fumes;
 - Litter;
 - Vibration.
- Ground and groundwater:
 - Pollution spills;
 - Vibration;
 - Dust;
 - Litter.
- Water bodies, streams, reservoirs, rivers and lakes:
 - Pollution spills
 - Litter;
 - Dust / silt.
- Ecology, animals, birds, aquatic life, trees and plants:
 - Pollution spills;
 - Litter;
 - Noise;
 - Vibration;
 - Dust.

KEY ENVIRONMENTAL IMPACTS

Ecological

Impact:

The primary impact on the present ecology of the site should this development proceed arises from the enabling works at the start of the construction period, involving site clearance, the disturbance of existing vegetation and soils, and the import and spreading of additional top-soils as required. Some permanent loss of wildlife habitats will occur.

Secondary impacts from construction are primarily associated with disturbance to wildlife species because of the high levels of noise and construction activity that will occur on site.

Mitigation:

Housing Layout

The development has been designed to retain areas of plantation woodland and tree lines where possible to ensure the diversity of habitats within the site is retained and retain habitats suitable for use by foraging and commuting bats & foraging and nesting birds.

Bat Roosting Assessment

Tree removal should be carried out between September and late February. Trees should be carefully section felled. Sectioning must avoid cutting through or close to any cavities. Any cavities must be inspected by the licensed Bat Surveyor. All felled sections will be left to lie on the ground for 24 hours before removing ivy and side branches.

In order to increase roosting opportunities for bats and nesting opportunities for birds within the site post-development, it is recommended that bat & bird boxes are installed within the residential development to compensate for losses of nesting habitat associated with the proposals and increase the availability of suitable roosting/nesting habitats for bats & birds.

Bird Nesting Assessment

All vegetation clearance carried out on site (that will affect habitats suitable for use by nesting birds) to be scheduled outside of the nesting bird season (March to August). Any work required within this time period will require a nesting bird survey to be carried out by a qualified ecologist.

Construction Lighting

In regards to the site lighting, this needs to be directional and screened where possible to limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation.

Hedgehog Assessment

It is recommended that Reasonable Avoidance Measures (RAMs) are adopted during the construction phase. All site personnel must be made aware of RAMs during the site induction. Prior to any soil strip, the vegetation should be trimmed to a height of no less than 0.15 metre and all arisings removed. Any holes, trenches or other pits created/identified during construction, where hedgehogs could fall into, must be covered overnight or have sloped banks/ramps to allow for escape.

Transport

Impact

The impacts of construction traffic have been assessed during the planning process for the entire site development.

Traffic may cause the following impacts:

- Noise;
- Dust;
- Traffic congestion resulting in extra travel time for local residents;
- Vibration;
- Nuisance; and
- Additional hazards to local residents of moving vehicles.

Mitigation

A Traffic Management Plan will supplement this Construction Environmental Management Plan.

This shall include:

- Designation of lorry routes, this predefined route is to be agreed with the relevant ☐ authorities;
- Controls on the timing of lorry movements (preferable confined to the normal working day, although movement of particularly large plant may need to take place at other times);
- Appropriate authorisation of any temporary road closures or diversions;
- Measures to prevent off-site parking of HGVs and employees' cars and to ensure vehicles use designated routes;
- Maintenance of traffic and pedestrian safety at all times (including, for example, provision of ramps, barriers, uniform surfaces, signage etc); and ☐ Measures to avoid mud being deposited on roads.

Noise and Vibration

Impact

Noise and vibration will be caused during construction activities by:

- Traffic movements;
- Plant movements;
- Demolition operations;
- Drilling and piling operations;
- Excavating operations;
- General construction activities; and ☐ Emergency sirens.

Mitigation

- Noise and vibration will be limited to the core working hours previously define.
- Contractors must use "best practicable means" (BPM) to minimise the nuisance from noise and vibration.
- The maintenance and location of plant will be planned to minimise noise levels and screening will be used where necessary.
- Adherence to noise limits should be included in contractual agreements with contractors. General induction training for site operatives and specific training for staff having responsibility for particular aspects of controlling noise from the site.

- Use of most environmentally acceptable and quietly operating plant and equipment appropriate to the works with emission levels limited to relevant EC Directive/UK Statutory Instrument levels and levels quoted in BS5228.
- Intermittently operating plant will be shut down in the intervening periods between operations.
- Any compressors brought on to site would be silenced or sound reduced models fitted with acoustic enclosures.
- All pneumatic tools will be fitted with silencers or mufflers.
- The excavation and demolition of existing structures will, wherever possible, be undertaken without the use of pneumatic breakers.
- Wherever possible, the use of hydraulic attachments or other means of crushing concrete and hard materials will be used in preference to pneumatic breakers.
- Where the use of impact hammers is necessary, their attachment to larger and heavier excavators will be employed to reduce the level of vibration.
- Care will be taken when erecting or striking scaffolds to avoid impact noise from banging steel. All operatives undertaking such activities will be instructed on the importance of handling the scaffolds to reduce noise to a minimum.
- Deliveries will be programmed to arrive during daytime hours only. Care will be taken when unloading vehicles to minimise noise. Delivery vehicles would be routed so as to minimise disturbance to local residents. Delivery vehicles will be prohibited from waiting on the highway or within the site with their engines running.

Air Quality

Impacts

Air quality will be impacted by fumes from vehicles and plant and the potential for dust created during periods of dry weather from the demolition activities and the earthworks.

Mitigation

Fumes from vehicles will be minimised by the following measures:

- Engines of all vehicles and plant on site will not be left running unnecessarily;
- Low carbon vehicles and plant fitted with catalysts will be used where possible;
- Ensuring that plant and vehicles are well maintained and hold a valid MOT;
- All commercial road vehicles and construction plant, including stationary plant must comply with any legislative requirements including the European Emission Standards, Euro 3 during any works and Euro 4 when this comes into force; and
- Wherever possible, use of electrical powered tower cranes.

The potential to produce dust will be minimised by implementing BPM measures. These will include:

- Site Planning:
 - Dampening of exposed soil and material stockpiles using sprinklers and hoses when necessary to prevent dust and particulate matter becoming mobile;
 - Stockpiles of soils and materials would be located as far as possible from sensitive properties, taking account of prevailing wind directions and seasonal variations in the prevailing wind; and
 - Surface areas of stockpiles would be minimised (subject to health and safety and visual constraints regarding slope gradients and visual intrusion) to reduce area of surfaces exposed to wind pick-up.
- Construction Activities:

- Construction operatives will use appropriately designed vehicles when handling material and design controls for the use of construction equipment and vehicles. Additionally it will be ensured that all construction plant and equipment is maintained in good working order.
 - Short-term releases may also occur during start-up of diesel engines, etc.
 - Regular visual checks and routine maintenance would be applied in accordance with the plant specification, to minimise releases. Faulty site plant will be decommissioned until repairs are carried out and it has been tested and found to be operating satisfactorily.
 - On-site cement and concrete batching (if required) will be undertaken in enclosed areas, with suitable water dowsing and wind shielding measures applied as appropriate.
 - Dust-suppressed tools will be used for all operations. ○ No unauthorised burning of any material will be carried out anywhere on site.
- Construction Traffic:
 - Surfaced and un-surfaced site access roads will be watered as necessary using a water bowser and surfaces kept in good order;
 - Regular inspection of local highways and site boundaries to check for dust deposits (and road sweeping will be conducted if necessary) would be carried out, the road sweeper collections will be disposed of in accordance with waste management legislation; and
 - Visual inspection of the site perimeter to check for dust deposition (evident as soiling and marking) on vegetation, cars and other objects, and the implementation of remedial measures if necessary, would be carried out; and
 - Speed limit around site of 20 mph.

Ground Conditions

Impacts

- Ground conditions can be impacted by
- Fuel and liquid spillages;
- Dust;
- Vibration;
- Windblown waste / litter; and □ Contaminated land.

Mitigation

All fuel will be stored in a double skinned tank or a tank in a suitable bunded area in compliance with the Control of Pollution (Oil Storage)(England) Regulations 2001. Refuelling activities will only be undertaken by suitably qualified persons and spill kits will be available within the site compound.

All hazardous liquids e.g. oils, lubricants, chemicals and tins of paint be stored in a segregated area in a suitable locked COSHH container. COSHH assessments will be available nearby for information in the event of a spillage.

Dust and vibration will be controlled, as previously detailed.

All areas of known contaminated land are marked on site plans. A remediation plan is in place for the development. Some of the contaminated material shall be remediated on site; where this occurs precautions will be taken to prevent additional contamination of the site from the material undergoing remediation. If further areas of unidentified contamination are discovered during construction, expert advice will be sought from appropriately qualified engineers on the actions that should be taken.

In order to protect site workers, members of the public and the environment where movements of contaminated material off site are required this will be carried out under the relevant waste management legislation and in consultation with the Environment Agency where necessary. The Environment Agency

shall also be consulted where piling and ground improvement activities have the potential to cause risk to the underlying groundwater sources to ensure risk is minimised.

Water Resources and Flood Risk

Impact

Surface water and ground water resources could be impacted from pollution, for example fuel spillages, dust and waste.

There is potential for the creation of silt during periods of heavy rainfall which if not managed could cause silt pollution which could lead to:

- Pollution of watercourse and harm to watercourse fauna;
- Flooding; and
- Blocking drains causing nuisance issues.

Mitigation

Measures to manage spillages, dust and waste are detailed in other sections of this document. All the diesel tanks will be bunded and diesel spill response kits will be located in high-risk areas susceptible to spills. Fuel spill kits are stored in the site compound and at appropriate locations across the development site.

All options are to be considered for occurrence of silt runoff. These include:

- Leaving grassy areas as catchment or settlement areas;
- Battering or sheeting oil stockpiles and locating them away from the watercourses
- and drains, where possible;
- Protection of drains;
- Use of grips and straw bales;
- Silt fencing; and ☐ Dewatering.

Waste

Impacts

The construction works are likely to produce the following wastes:

- Inert waste;
- Non-hazardous mixed waste;
- Plasterboard;
- Wood;
- Paper, cardboard & plastics; and
- Hazardous waste – small quantities of part full paint tins, mastic tubes and aerosols.
- Contaminated soil – if unable to remediate onsite will sent offsite for disposal

Mitigation

Site Waste Management Plan (SWMP) will be developed for every phase of the development.

Each SWMP details how each waste stream will be managed; the projected waste volumes and the Duty of care checks on all waste carriers and permitted disposal/ treatment sites.

The appointed SWMP contractors are to be confirmed. They will manage all waste issues to ensure compliance with legislation.

Waste will be segregated into individual skips (metal, hard core, timber, inert etc.) and monitored in relation to type and weight, enabling the recycling of onsite materials to be maximised. Canteen waste will also be bagged and recycled, where appropriate.

We shall employ our group method to log all the materials removed from site and the method in which it has dealt with for the purposes of statutory six monthly reviews of the SWMP. A copy of the most up to date SWMP will be held within site office.

EMERGENCY RESPONSE PLAN

Barratt David Wilson Homes NW has produced a Construction Health and Safety Plan document for the Cherryfield Drive, Kirkby site. This separate document should be implemented in this section of the CEMP.

All operatives are informed within the site induction of who the first aiders are on site, the first aid procedures and fire protocols. Details of the appointed first aider will also be displayed within the site office.

The traffic management plan will identify both the first aid point, fire assembly point and fire equipment position. A plan with directions to the nearest hospital can also be found on the muster / assembly point noticeboard located in the site office.

MANAGEMENT OF CONTRACTORS

All contractors/sub-contractors are required to provide Barratt David Wilson Homes NW a copy of their latest Health & Safety policy, Method Statements, Risk Assessments for all their proposed working methods as per Health & Safety Policy & Procedures Manual.

These will contain methods of activities, potential environmental receptors and are required prior to commencement on site.

A copy of this information is to be held within the site office and another copy is to be held with the Commercial department at head office.

All contractors/sub-contractors to also ensure that all employees hold a current CSCS card (relevant to the work they undertake on site) and the card numbers to be submitted to head office for records.

TRAINING & COMPETENCE

Procedures for ensuring the correct levels of training and competence include:

- All operatives are informed at the induction stage of all sensitive ecological areas and are issued with an ecological document stating the reasons and locations of all the relevant areas;
- All operatives are inducted by Barratt David Wilson Homes before work commences and informed that they are required to 'sign in' before the operative commences work
- Barratt David Wilson Homes works to a strict Health & Safety and Procedures core document, where individual operatives have specific Induction Sheets. These documents are read to the relevant operatives, where a signature is required on completion and a record kept in the site file;
- There are also procedures in place that any issues raised in relation to Environmental Health & Safety and work ethics, whether highlighted by staff or site operatives, are relayed via 'Tool Box Talks' and are noted on an individual form, allowing site management to resolve the issues raised.
- A record of Tool Box Talks will be kept on site, stating date, description of non-conformance, potential implications, proposed corrective actions, individual responsible and target date..

METHOD STATEMENTS

Method statements obtained by the contractor from their subcontractors should include, as a minimum:

- A description of the works being undertaken;
- Descriptions of the impacts to the environment caused by their works based on a review of surveys and information available for the development. The impacts should consider areas such as landscape and visual; transport, waste and noise and vibration;
- Details of the activities to be undertaken; equipment to be used; hours of operation; site access arrangements and likely vehicle movements and details of waste and emissions expected to be generated;
- Management and Mitigation measures;
- Monitoring and measurement responsibilities; and
- Emergency preparedness and response procedures.

The method statements will include the following environmental control measures:

- All waste to be segregated and placed in a suitable waste container;
- All fuel to be stored in suitable double skinned bowsters, tanks or within a bunded area;
- Drip trays or absorbent blankets to be placed under all static plant;
- All hazardous chemicals to have an up to date COSHH assessment, be appropriately labelled and be stored in a locked container;
- Emergency arrangements for spill response;
- Spillages to be reported immediately;
- Core working hours;
- Vehicle and plant engines to be turned off when not in use;
- Requirements for an ecology permit if working in an ecologically sensitive area and for excavations, works to stop immediately if unknown remains found.