Bovis Homes Ltd – West Midlands Region

Proposed Residential Development

Heyford Park

Construction Environmental Management Plan

March 2020

Contents

Page Number

1. Introduction

The Bovis Homes construction phase of the land within Heyford Park will be controlled and monitored to prevent significant impacts on the environment and the local community. Both the developer and construction contractors have key responsibilities to ensure that environmental impacts are controlled efficiently. The Construction Phase Plan (CPP) will plan, manage, monitor and co-ordinate health & safety in the construction phase. The Construction Environmental Management Plan (CEMP) will provide further detail of how the construction works will be delivered in respect to preventing significant impacts on the environment and local community. It will reference how construction works will be undertaken and managed in accordance with the Planning Application, Planning Conditions, contractual and legislative requirements and construction industry best practice.

The CEMP will be developed until site commencement and all site works should be undertaken in compliance with this plan. The CEMP shall include the following details;

- Project Organisation and Responsibilities
- Project Communication and Co-ordination
- Training
- Operational Control
- Checking and corrective action
- Complaints Procedure

The CEMP will be reviewed monthly during the construction process or at times of significant change.

2. Project Organisation and Responsibilities

An outline the roles and responsibilities of the project team are:-

2.1 *Build Director*

The Build Director has overall accountability for the performance of the project against the CEMP and he will resolve any CEMP related matters though his Area Build Director/Manager.

2.2 *Area Build Director/Manager*

The Area Build Director/Manager is responsible for planning the CEMP prior to site and will resolve any CEMP related issues through the Site Manager.

2.3 *Site Manager*

The Site Manager is responsible for the implementation, monitoring and development of the CEMP once construction works commence.

2.4 *Environmental Specialists*

Environmental specialists identified during the development of the CE
MP will be engaged if and as required to support the project team.

3. Project Communication and Coordination

Periodic meetings will be held between the team members to discuss performance to date, the need for necessary improvements, results of inspections and any complaints received. Upcoming work operations will be reviewed in order to plan any necessary actions to alleviate risks and to disseminate information on best practice. If necessary, representatives of the Statutory Authorities may also be invited to attend such meetings as and when required.

4. Training

Training will include the relevant competency requirements, record keeping, inductions and tool box talks. All operatives must be competent for the works they are carrying out or be supervised by a competent person where training is in place.

5. Operational Control

Site works will be checked against the CEMP requirements. Any mitigation measures that have been agreed with the Statutory Authorities, or are part of the conditions, will be put in place prior to the undertaking of works for which they are required and all relevant staff are briefed accordingly.

6. Checking and Corrective Action

Daily inspections of the site and the works will be undertaken to minimise the risk of environmental damage and to ensure compliance with the CEMP. Any incidents are to be reported immediately to the Site Manager. The Area Build Director/Manager will undertake ongoing and continuous reviews of the performance of the project with regard to the relevant standards/legislation and CEMP.

7. Environmental Control Measures

Specific procedures to manage the key environmental aspects of the project will be developed by Bovis prior to work commencing with sub-contract input as necessary. This includes the following:

7.1 *Highways - Construction Phase Traffic*

In order to provide safe access/egress and the segregation of construction plant and visitors/occupiers a Traffic Management Plan will be developed and implemented by the Area Build Director/Manager which will focus on:

- Co-ordination of car parking construction personnel.
- Implementation “just in time” contract plant hire.
- Restriction of unnecessary vehicle movements during the day.
- Safe visitor and occupier access and egress.

7.2 *Air Quality*

No specific mitigation, other than adopting the best construction practises are proposed with regards to air quality. The CEMP will ensure that measures are in place to minimise dust pollution during construction activities, drier periods and earth works operations.

Dust suppression systems will be available as required and personnel protective clothing will be provided as identified by the relevant COSHH Assessments. The possibility of the generation of dust or sand particles with silica content has to be considered and for all cutting action into concrete operatives will wear suitable Type FFP3 dust masks and use water based dust suppression systems.

7.3 *Noise and Vibration*

7.3.1 *Construction Noise*

Several measures will be implemented to minimise the effects of construction noise resulting from the construction phase activities and to ensure noise from the works do not exceed a Leq of 70db (A) at the nearest residential boundary. These measures include:-

- Any compressors brought onto site will be silenced or sound reduced models.

- All pneumatic tools will be fitted with silencers or mufflers.
- All plant items should be properly maintained and operated according to the manufacturer's recommendations to avoid causing excessive noise.
- No works or deliveries will be permitted outside normal working hours as specified in the CEMP without written approval of Bovis Homes and the Planning Authority.
- Deliveries should take care when unloading vehicles to minimise disturbances. This also includes vehicles being prohibited from waiting on site with their engines running.

7.3.2 *Working Hours & Delivery Times*

Construction working hours will be in accordance with the site wide CEMP

7.3.3 *Construction Vibration*

Vibration during construction operations is unlikely to be perceptible at any of the nearby vibration sensitive receptors due to their distance from site.

7.4 *Dust control*

The CEMP will ensure that measures are in place to minimise dust pollution during construction activities, drier periods and earth works operations in line with the IAQM dust guidance.

The controls to manage or reduce the risk of exposure to fine dust which has the potential to be inhaled without the necessary mitigation measures will consist of the following in accordance with company designated site working practices.

- Damping down the dust – water suppression is the most effective means. Modern chop saws have the attachment for a water hose or pressurised bottle. A minimum level of 0.5l/minute is required for effective control.
- The use of cutting concrete / block and stone products will only be permitted using water suppression and dust masks
- Dust extraction applied for the cutting and sanding of timber
- Use of a suitable dust mask for site operatives.
- Equipment maintenance – ensure equipment is maintained and in good working order:-

  - Water jets are working
  - Worn discs replaced to reduce cutting time
  - Maintain hoses and water bottles
  - Inspect and maintain masks

7.4.1 *Site Inspections*

The developer and contractor are to actively monitor the site to ensure the control of dust and emissions. Dry and windy conditions increase the likelihood of dust and emissions being produced and dispersed, so extra site monitoring should take place during these times.

7.4.2 *Preparing and Maintaining the Site*

The way in which a site is prepared and maintained can have a significant impact on the control of dust and emissions. Below are some measures that can be used to minimise emissions from a development site.

- Site Layout – construction work will be planned to:-

  - Locate machinery and dust generating activities away from receptors.
  - Create a physical distance and / or barrier between dust / emission generating activities and receptors.
  - Remove loose materials as soon as possible.

- Site Maintenance:-

  - Bovis Homes will keep their construction sites in good order. Measures include:
  - Runoff and mud will be avoided as it can lead to dust once dry as well as polluting local waterways and sewers.
  - Hoardings, fencing, barriers and scaffolding should be regularly cleaned using wet methods, where possible to prevent re-suspension of particulate matter.

7.4.3 *Reducing Vehicle Idling*

The site will be managed so that vehicles do not have to wait to park safely. However, should vehicles have to wait they must not idle. Generally, if a vehicle is stationary for more than a minute, turning off the engine will reduce emissions and fuel costs.

7.4.4 *Chutes, Conveyors and Skips*

Skips, chutes and conveyors will be properly segregated and not overfilled. Drop heights will be minimised to control the fall of materials.

7.4.5 *Mitigation Measures Specific to Demolition*

There is a small single store out-build to be demolished. The building will be investigated following which mitigation measures can be considered and implemented.

7.4.6 *Measures Specific to Earthworks*

Following earthwork activities is important to reduce the generation and suspension of dust through re-vegetating exposed areas and soil stockpiles to stabilise surfaces. Where this is not possible, use hessian/or mulches to re-vegetate to cover with topsoil.

7.4.7 *Measure Specific to Construction*

It is important that cement, sand, fine aggregates and other fine powders are sealed after use and if necessary stored in enclosed or bunded containers or silos. Some materials should be kept damp to reduce the risk of drying out.

7.4.8 *Measures Specific to Trackout*

Haul Routes

Unpaved haul routes can account for a significant proportion of fugitive dust emissions, especially in dry or windy conditions, therefore, haul roads will be tarmac where they can be utilised for driveways or similar and compacted hard core areas which will be soft.

Covering Vehicles

All vehicles carrying dusty materials will be covered entering and leaving the site.

Dust and air quality

What?

Dust, emissions and odours can annoy neighbours and may cause health risks at very high concentrations.

Why?

- **Avoid nuisance to neighbours:** Dust can settle on neighbours' properties and give rise to local dispute. Poorly controlled emissions and odours from plant or works may give rise to valid complaints.
- **Avoid programme delays:** The Local Authority has the power to stop works if dust is causing a nuisance. Emission of dark smoke from plant and fires is illegal.
- **Avoid health problems:** Dust may cause eye irritation or make asthma worse
- **Avoid impact on ecology:** Dust can damage the ecology of a watercourse and affect plant growth, including crops

Do ✓	Don't ✗
✓ Keep surfaces swept and damp down with water at regular intervals	✗ **Don't** burn materials on site without approval from your Project Manager. Permission is required first from the Environment Agency
✓ Minimise drop heights into haulage vehicles and into conveyors	✗ **Don't** use poorly maintained plant. Black smoke may give rise to poor health and can cause a nuisance
✓ Ensure cutting and grinding operations are adequately shielded or wetted	✗ **Don't** leave plant running if not in use
✓ Sheet lorries carrying dry materials off site	✗ **Don't** ignore sources of poor air quality, notify your line manager
✓ Keep to site speed limits to minimise dust generation	✗ **Don't** ignore complaints
✓ Use the wheelwash, for appropriate vehicles, if one is provided on site	
✓ Store fine, dry materials within buildings or provide adequate protection from the wind	
✓ Store bulk cement and bentonite in silos	
✓ Position silos and stockpiles away from residential areas or watercourses.	
✓ Clean up or damp down any spillage of dry dusty materials	
✓ Notify your Line Manager if work activities are causing poor air quality	

7.5 *Control of Watercourses, Ground Water and mud on highways*

Precautions will be taken prior to and during construction to ensure the protection of watercourses and groundwater against pollution.

7.5.1 *Tarmac road surface*

All construction roads will be tarmac finished which will prevent the creation of mud from vehicular tracking movements from the site entrance to the compound, parking and material storage areas. Tarmac finished roads also reduce the transfer of mud which may be present and enables easy cleaning with a road sweeper.

7.5.2 *Road Brush and Road Sweeper*

A road brush will be used to clean off excess mud from site roads. A road sweeper will be deployed, when necessary, to keep roads free from excess mud and this includes any excess mud which has inadvertently been deposited on the highway.

7.5.3 *Jet Wash*

A high powered, unmanned, jet wash facility will be provided if, following a review of the CEMP and its effectiveness for keeping mud of the highway, it is determined a jet wash facility will provide a practical and material enhancement to preventing excess mud being deposited on the highway.

7.5.4 *Storage of Materials*

Construction materials such as cement, oils and fuels for site plant etc. have the potential to be harmful and cause pollution. All fuel, oil and chemical storage must be sited on an impervious base within a secured bund of adequate storage capacity. The risk of fuel spillage is greatest during refuelling. Mobiles plants would be refuelled whether off site or within a designated area on a hard standing surface. All pumps, hoses etc. would be regularly checked.

7.5.5 *Burning of materials*

There will be NO burning of rubbish on Bovis Homes controlled sites.

Where asphalt tools need to be heated for operational purposes, fires must be contained in suitably robust metal containers, which will:-

- Retain the fire and any sparks safely
- Not produce black smoke
- Stable during use, so as not to endanger the operatives and others
- Only be used for the designed purpose and
- fully extinguished on completion of task
- A suitable extinguisher will be readily available at all times

7.6.1 Traffic Management Plan

The Traffic Management Plan will be maintained on site and will cover the following matters:-

- Heras fencing construction area boundaries.
- Pedestrian access/egress identification and protection
- Designated pedestrians crossing points with construction areas.
- Site car parking.
- Ensuring vehicles requiring to reverse do so safely.
- Speed limit for both construction areas and occupied areas.
- Warning beacons on operating plant.
- Operatives PPE.
- Roads clean to remove excess mud

7.6.2 *Construction Vehicle Movements*

Site construction vehicles will only be operated/driven by those who hold a relevant certificate and or licence.

All equipment on site will be inspected, tested and serviced at the appropriate times as laid down by legislation and the manufacturer's instructions.

All construction vehicles/plant when not attended will be parked and immobilised with the keys removed.

Inspections and test certificates must be made available to the site manager and appointed safety advisor upon request.

Where construction vehicles are operating on roads to which the public has access roof beacons/headlights will be used.

7.6.3 *Mobile Plant and Equipment*

It is the policy of Bovis Homes that: -

- all mobile plant on site will have audible reverse warning fitted
- all 360 Excavators, F/Lifts and Telehandlers are fitted with mirrors including side and tail mirrors or better to ensure good all round vision
- All split chassis dump trucks are fitted with cameras to aid reversing on site.

7.6.3 *Compound Areas*

The compound and temporary compound areas will have a segregated pedestrian access and vehicle entrance. Pedestrian access to the welfare cabins will be fenced off for safety reasons.

7.6.4 *Material Delivery and Storage*

All deliveries to the site will be made as indicated on the Build Strategy Plan and materials stored within the Materials Store shown on Build Strategy Plan.

Where materials are delivered to the working area they must not be placed in such a position that they block access or pedestrian routes.

The Groundworks contractor will be responsible for ensuring their delivery vehicles are supervised when reversing into a storage or off load area.

Any loads above 1.2 metres that require access for slinging etc. must include fall protection

Vehicles must enter and egress the site in forward gear.

Vehicle congestion at the construction entrance is to be avoided. The groundworker is to assess proposed deliveries and any earthwork movements so that access/egress is planned to avoid congestion and measures such as banksmen and vehicle holding points are to be employed when required.

7.6.5 Plant Storage

All plant machinery on site is the sole responsibility of the contractors on site. A separate contractor's car park is shown on the Build Strategy Plan adjacent to the Site Compound and all plant may be parked within this area.

7.6.6 *Security*

SAFETY SIGN REQUIREMENTS

- Standard health and safety signs to be displayed on site
- Signs to be fitted marking site car park and pedestrian routes
- Health and Safety notice board to be fitted in canteen and office

SECURITY ARRANGEMENTS

Minimum requirement: The site manager or his nominated representative will check the perimeter fence ensuring all is secure before locking the site before leaving.

8. Complaints Procedure

It is important that a member of the public or interested parties are able to make a valid complaint regarding the construction works. Such complaints can provide a valuable feedback mechanism to help reduce potential impacts on sensitive features and will also allow the construction works to be refined and improved.

A letter drop to local residents will be undertaken in order to provide updates of key stages of construction and provide them with the site contact details as set out below.

Complaints should must be directed to the Build Department.

<u>Contact Details:</u>

Normal Working Hours: Build Secretary tel: 01675 437000

Outside of Normal Working Hours: tel: 01474 876300

9. SITE WASTE MANAGEMENT PLAN (SWMP)

Client:	Bovis Homes Ltd Bromwich Court Highway Point Gorsey Lane Coleshill B46 1JU
Project Title:	Bovis Homes – Heyford Park.
Project Aim:	We are committed to implement the site waste management plan so that it is effective, accurate and economical and to ensure that the procedures put into place are working and are maintained.
Management:	The site manager is the SWMP co-ordinator and as such is responsible for ensuring the instruction of works, implementation of and overseeing of the SWMP. The production manager will monitor the effectiveness and accuracy during the routine site visits. Independent audits will also be completed by our Health & Safety advisors via site inspections.
Instruction & Training:	The production manager will provide on-site briefing via induction of appropriate separation, handling, recycling, re-use and return methods to be used by all subcontractors. Toolbox talks will be carried out regularly on waste issues by the production or site manager.

9.1 *Site Waste Management on Site*

<u>WASTE SEGREGATION</u>
The waste materials on our developments fall into three categories of waste: re-use, recycle or landfill.

A specific area shall be laid out on site and labelled as a waste area to facilitate the separation of materials for potential recycling, salvage, reuse and return. Any recycling bags or waste bins provided are to be kept clean and clearly marked in order to avoid contamination of materials.

The waste on site is to be segregated into the following:

1. Timber
2. General/canteen waste
3. Scrap metal
4. Plasterboard
5. Brick/block/rubble waste
6. Topsoil
7. As dug arisings from foundations/drains

8. Tree cuttings/bushes etc.

Timber (inc. wooden pallets)
Surplus/waste timber is to be separated in the waste area and is to be re-used where possible and any reoccurring timber waste is to be reported to the head office immediately for the schedules to be amended. The timber schedules are tightly scheduled therefore there should be minimal waste produced per plot. The timber is to be disposed of in a general waste skip, tightly and neatly stacked until recycling schemes are made available which will be implemented in due course.

Only the required number of timber pallets are to be held on a particular site and re-used, these are to be removed from brick/block deliveries where not required. Any damaged pallets are to be fixed where possible or any beyond repair are to be broken up and placed at present in the general waste skip until a recycling method has been implemented.

General/canteen waste
General and canteen waste that cannot be recycled or re-used is to be placed into the general builders skips for disposal to tip. Only items not detailed above are permitted to be disposed on in this skip and any items placed must be stacked neatly and efficiently maximising the space in the skip and must only be items that are beyond repair, damaged or of no use, any other items are to be re-used.

Scrap metal
Any items of scrap metal are not to be placed in the general skip. Once there is sufficient quantity of warrant a collection, head office are to be notified and a scrap metal merchant will be employed to dispose of from site.

Plasterboard
There is a plasterboard recycling scheme in place on all sites which has been agreed and set up with the plastering contractor. All plasterboard waste is to be bagged up and removed from site by the plasterer. On no account is plasterboard waste to be placed into a general skip. Skim, bags and other plasterers waste can be placed into the skip but should be kept to a minimum.

Bricks/blocks/rubble
All waste bricks/blocks/rubble are to be separated and re-used on site as brick hard-core or may be used to level up areas across the site where appropriate. Where the waste cannot be re-used it is to be stockpiled and disposed of via a wagon which can be arranged through the buying department upon approval from the production manager.

Topsoil
Topsoil is to be stockpiled on site for use within soft landscaped areas and gardens on site, should there be an excess of topsoil on the site this is to be transferred to another site which can be arranged through the buying department upon approval from the production manager.

Subsoil/foundation/drainage arisings
As with bricks and blocks spoil, is to be separated and re-used to make up levels on site where appropriate. Where this cannot be re-used it is to be stockpiled and disposed of via a wagon which can be arranged through the buying department upon approval from the production manager.

Tree cuttings/bushes etc.

Any lopped trees/bushes/hedges are to be separated from any topsoil and muck piles and either chipped and used for bark/mulch on site or the buying office is to be contacted to arrange a wagon collection for disposal.

9.2 Other Waste

Hazardous items

There are certain items that are not able to be disposed of into a general waste skip such as types, tarmac, plasterboard (or other gypsum based products) gas bottles and obviously asbestos, these will not usually be on site and will be dealt with by the demolition contractor or during the site clearance works.

Plasterboard and tarmac is covered separately in the report but with regard to tyres, gas bottles and asbestos should these be on site they are to be stored separately and a separate collection by a specialist disposal company is to be arranged with head office.

Tarmac/concrete kerbs and edgings

Where road/drive remedial works are taking place this is to be removed by the roads and sewer contractor ensuring that the tarmac and the concrete items separated.

Rigid insulation board

This item is now a scheduled order item therefore there should not be any waste, the off cuts of the insulation is to be placed in the general waste skip and any surplus sheets are to be kept in a container for re-use on future plots.

Sub-contract Labour and Material waste

Our subcontractors have a duty of care with respect to waste and are therefore responsible keeping the waste generated where the trade is to supply and fit, to a minimum, any waste that we feel is excessive we are within our rights to charge the percentage of waste to them and this has been detailed within their orders and includes the following high waste items:

Mortar (Bricklayer)

Where a silo is used on site the waste should be kept to a minimum, and sites are to ensure that only the required amount of mortar is allocated to avoid excessive waste at the end of the day. Where site mix mortar is used the sand and cement are to be stored as detailed in the construction manual and protected from the elements.

Screed (Plasterer)

Screed waste should be kept to a minimum, where this is deemed excessive a charge is to be made against the contractor.

Fly tipped material/personal waste

On no account is fly tipping to be tolerated and any evidence of this is to be reported immediately to head office to deal with. Personal waste from residents and sub-contractors into our skips is also not allowed and again any evidence of this is again to be reported to head office for action.

Material packaging and protection

Any protective packaging that arises from delivered materials is to be disposed of in the general waste skips. Some of the subcontractors are responsible for removing their own waste and arising's from site as part of their order and these are detailed in the table below; on no account is this waste to be left on site for us to dispose of:

Sub-Contractor	Waste	Waste Category	Method of Disposal
Appliance Fitter	Packaging	General	Appliance packaging to be removed via contractors van
Carpet Fitting	Carpet off cuts & gripper rods	General	Carpet off cuts and gripper rods to be removed via contractors van
Kitchens (supply and fit kitchens only)	Packaging	General	Packaging to be removed via contractors van
Loft Insulation	Quilted fibreglass insulation	General	Surplus insulation to be rolled up and stored in the roof space
Plasterer	Plasterboard	Hazardous	Plastering contractor to organise recycling bags and remove from site
Roof Tiler	Roof tiles	General	Surplus roof tiles are to be removed from site or re-used on future plot, organised by roofing contractor
Wall Tiler	Wall Tiles	General	Surplus tiles to be left behind bath panels or under kitchen units.

Ways of minimising waste

We have, from an early stage looked at how we can minimise the waste produced, thereby reducing the amount of waste to be removed from site. Trade contractors, design team and the suppliers are all being encouraged to look at ways to minimise the amount of waste produced at the workface.

9.3 *Skips*

The labelling system of the onsite tipping skips shall be identified via a sign and only the waste assigned to that particular skip will be deposited. Tipping skips are to be segregated into the following:

- Wood
- General/canteen waste

The general waste tipping skips can then be disposed of into one of the following:

Skips	Waste	Allowance	Usage
8 cu yard skip	Builders Rubbish	1no skip per plot	Skips are to be used for non-re-useable and non-recyclable materials only.

On larger sites the following method of waste disposal is to be used, this however is only cost effective where lightweight materials are disposed of.

Skips	Waste	Allowance	Usage
20 cu yard roll on roll off skip	Builders Rubbish	1no skip per 3 plots	Skips are to be used for non-re-useable and non-recyclable materials only.

Skip allowances

The following skip allowances are as follows:

- Apartment (one or two bed) 1 skip
- Up to 1000sq foot house 2 skips
- Up to 1500sq foot house 3 skips
- Communal area 1 skip
- Compound area 2 skips per quarter

This will be detailed on the main skip order and should this need to be exceeded, head office is to be contacted for authorisation.

Monitoring

The above results will be monitored monthly in the monthly management meeting where any major differences will be investigated to improve the process. A final calculation at the end of the site against the amount of skips used on site using the waste transfer notes and the original estimates will be carried out and reported.

Waste logs

In this section the detailed site waste logs produced by the skip suppliers are to be placed. This log details the quantity of waste taken from site, the amount to landfill and the amount recycled. A duplicate copy of these logs are retained at Head Office.