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APPENDICES

Appendix A: Site layout and location plan

Appendix B: Traffic and construction management plan

Appendix C: Dust and Emissions SPG

Appendix D: Surface Water Management Plan



1. Phasing and Sequence of Works

Construction works will be undertaken over 24 Months (2 years) and will be sequenced as follows:

- ❖ Site setup, preparation (By others Spencer Civils)
- ❖ Cut and fill exercise, install retaining wall and drainage (By others Spencer Civils)
- ❖ Construction of the substructures and superstructures; (Duchy Homes Ltd)
- ❖ Externals & Landscaping works (Duchy Homes Ltd)

Key Responsibilities

To ensure that environmental standards are maintained, every person working on the site must be aware of their responsibilities. Spencer Civils (whist the principle contractor) and Duchy Homes will have overall responsibility for implementation of the CEMP.

Person/Organisation Responsibility

Duchy Homes Limited/Spencer Civils

Initial erection of hoardings around the site; (Spencer Civils)

Fencing off of any trees and shrubs scheduled for retention. (Spencer Civils)

Ensuring that the requirements of this CEMP are adhered to at all times; (Spencer Civils and Duchy Homes)

Ensuring that all site staff and subcontractor(s) undertake their activities in accordance with the site environmental policy, best practice and comply with the requirements of the CEMP;

Ensuring that any monitoring required is being undertaken;

Ensuring that liaison is undertaken with the, neighboring landowners (if required), residents and occupiers, and that any complaints and queries are addressed as soon as it is practicable; and



Ensuring that unacceptable levels of environmental pollution including fuel spillages, noise, dust or vibration do not arise from their activities on the site. This includes ensuring that:

- statutory environmental requirements are met;
- environmental best practicable means (BPM) and controls are employed;
- relevant procedures are followed;
- resources (personnel and financial) are available to meet the environmental management requirements;
- corrective actions are implemented; and
- records and other relevant documentation are maintained.

Preparation and implementation of the waste minimisation, recycling and disposal plan.

Coordinating deliveries and controlling vehicles accessing and leaving the site.

Monitoring dust, noise and vibration within the vicinity of the site and ensuring that any complaints regarding dust, noise or vibration are appropriately handled. Construction Manager (nominated by Duchy Homes)

Reporting incidents to Duchy Homes;

Minimizing waste;

Ensuring that all staff adhere to statutory environmental requirements and the CEMP;

Ensuring that resources (personnel and financial) are available to meet the environmental management requirements;

Ensuring that corrective actions are implemented; and

Ensuring that records and other relevant documentation are maintained and reported to Duchy Homes Limited including energy use and water consumption.

Site personnel All site staff are responsible for adhering to the requirements of the procedures outlined in this Construction Environmental Management Plan, ensuring that legislative requirements and good environmental practice are met within their job function; and As part of the site induction, all site staff must be made aware of the importance of maintaining good relations with the local community and neighbours and the sensitive location of the site as a whole.



2. GENERAL SITE MANAGEMENT

INTRODUCTION

This procedure addresses the general site management practices that should be employed throughout all stages of the works to ensure the safe and compliant operation of the site.

PROCEDURE

Site Working Hours

In accordance with the requirements of planning all construction works, and ancillary operations, including deliveries to and dispatch from the site should be restricted to the following periods:

Between 08:00 and 18:00 Monday to Friday;

Between 09:00 and 13:00 on Saturday, (and)

Not at all on Sundays and bank holidays.

It is recognised that there may be exceptional circumstances where the restriction on hours of work cannot be adhered to. In these circumstances Duchy Homes Limited will provide advance notification and justification for any extension to the working hours to the Planning authority, and notify neighbours before works start outside normal hours.

Site Security

will arrange for site to be secured fencing prior to works commencing on site. Once the works commence, Duchy Homes Limited will be responsible for the site hoarding, ensuring that appropriate and segregated vehicle and pedestrian access are provided and manned during working hours. During working hours, the site access should be kept closed except when vehicles are entering or leaving the site. Out of hours, the site access should be locked. The site entrance and exit should be clearly marked. The site entrance location will alter according to the phase of the construction works.

Pedestrian Management and Safety

All contractors working on the site should ensure that the pedestrian walkways are kept clear at all times. Duchy Homes Limited shall ensure that ramps and signs are provided and that footpaths and paths are wide enough for wheelchair access. Pedestrians who are mobility impaired or who have sight or hearing difficulties



should still be able to gain access to public footpaths and pavements adjacent to the site.

Road signs/names should be able to be clearly seen, or where a sign or name is obstructed, a replacement must be erected.

Site Facilities

A high level of site welfare facilities should be maintained and breaks should not be taken in view of the general public. Toilets should be screened and the site should be cleaned on a regular basis, especially around canteens and toilets. The usage of radios is not allowed on site.

All site facilities should be contained within the curtilage of the site area. If for any reason, it is necessary to load and unload out with the site boundary, this should be agreed in advance with Duchy Homes Limited. All deliveries/ dispatches are restricted to the same working hours as the construction works.

Site Flood-Lighting

Flood-lighting in areas adjacent to sensitive receptors, particularly residential properties, should generally be limited to the working hours identified. Where light glare may cause a nuisance, light shielding should be considered. Site lighting should be kept to a minimum, whenever possible, taking into account the needs for site health and safety and security.

Staff Training

As part of the induction process for all staff working on-site, Duchy Homes Limited will provide Toolbox Talks to all contractors on environmental topics to be agreed with Duchy Homes Limited. These will ensure all staff are aware of the environmental issues on the Development e.g. minimise waste generation, water and energy consumption; maximise recycling; avoid pollution incidents etc.



3. TRANSPORT MANAGEMENT

INTRODUCTION

This procedure applies to the management of vehicles accessing the site during the construction works and vehicle circulation within the site. The Site Manager appointed by Spencer Civil/Duchy Homes Limited will be responsible for ensuring that drivers adhere to this procedure, through implementation of a Traffic Management Plan.

POTENTIAL IMPACTS

The potential impacts as a result of construction traffic are:

- ❖ Congestion on the local road network resulting from vehicle routing and/or queuing to access the site;
- ❖ Pollution as a result of queuing vehicles;
- ❖ Soiling of the local road network through transfer of mud and debris from construction vehicles; and
- ❖ Pedestrian safety.

RELEVANT LEGISLATION AND GUIDANCE

- ❖ The Highways Act, 1980;
- ❖ Environmental Protection Act, 1990; and
- ❖ Road Vehicles (Construction and Use) Regulations 1986, as amended.

PROCEDURE

Construction vehicles waiting to enter or leave the site will be required to switch off their engines. Where possible, vehicle movement areas within the site should comprise hardstanding to minimise the transfer of mud onto the highway. However, vehicles leaving the site should ensure that they are clean and, if necessary, pressure washing of the wheels and chassis should be carried out.

A wheel washing facility will be provided on site near the site entrance for use by vehicles during construction to remove mud and debris from the wheels and chassis of vehicles.



Road sweeping measures should be employed by Duchy Homes Limited or principal contractor to ensure that local public highways are kept clean and free from debris as a reactive measure should any debris be noticed on the highway adjacent to site.

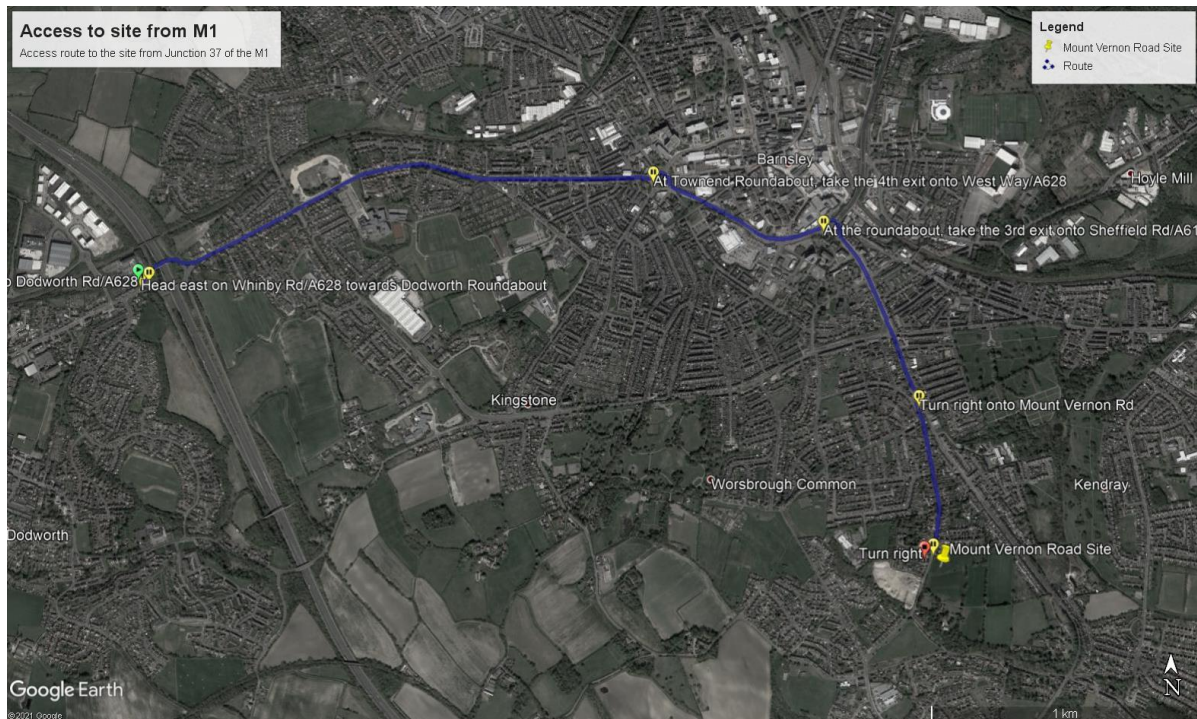
During construction, material deliveries to the site will be carefully phased to suit the Construction Programme. Duchy Homes Limited or principle contractor should coordinate all deliveries or collections to/ from the site.

All vehicles should be regularly maintained in accordance with the manufacturer's specifications.

DOCUMENTATION

Copies of plant maintenance records must be held on site in a designated file.

ANTICIPATED CONSTRUCTION TRAFFIC ROUTE



Access to the site from Junction 37, M1



4. WATER MANAGEMENT

POTENTIAL IMPACTS

The potential impacts from construction activities to surface and ground waters are:

Reduced surface or ground water quality from the release of mobile contaminants during the construction of the development, particularly during excavations and the construction of foundations;

- ❖ Incorrect disposal of site effluent;
- ❖ Pollution of surface water through chemical, oil and fuel spills;
- ❖ Introduction of other pollutants (e.g. excessive amounts of solid particles) into the surface water drainage system; and

RELEVANT LEGISLATION AND GUIDANCE

- ❖ Environmental Protection Act 1990;
- ❖ Water Resources Act 1991;
- ❖ Water Industry Act 1991;
- ❖ Ground Water Regulations 1998;
- ❖ Anti-pollution Works 1999; and
- ❖ Environment Agency Pollution Prevention Guidelines - General Guidance to the Prevention of Water
- ❖ Pollution (PPG01).

PROCEDURE

Site Drainage

Onsite will be drainage plan which shows the location of all surface and foul water drains and should make relevant staff aware of the existing drainage network.



Under no circumstances should waste chemicals, fuels, silt or sediments be discharged to the drainage system or groundwater.

In the event of a blockage, a specialist Trade Contractor should clear out the drains and the waste material disposed of accordingly.

Trade effluent, including dewatering effluent, from the site should not be discharged to surface or foul water drains without obtaining consent from the Environment Agency or Yorkshire Water Limited, respectively.

Duchy Homes Limited or principle contractor is responsible for obtaining necessary consents and ensuring compliance with any conditions, for example, the quantity and quality of effluent.

Storage and Handling of Hazardous Materials

Hazardous substance stores (including fuel and chemical stores) and areas at risk of spillage/ leakage of polluting materials should be bunded in accordance with current best practice. Bunded compounds should have an impervious base, which can hold at least 110% of the capacity of the tank or drum it contains to minimise the risk of hazardous substances entering the drainage system.

Labels should clearly indicate the contents of containers.

Delivery of fuel and oil should be supervised at all times and checks should be made to ensure that the correct type and quantity of fuel is being delivered. All pipelines and fuelling points should be protected from vandalism and unauthorised interference, and should be turned off and locked when not in use.

Drip trays should be used when filling smaller containers from tanks or drums to avoid drips and spills from entering the ground or drainage system.

Works with concrete should be carefully controlled and concrete wagons should be washed out in a safe area.

DOCUMENTATION

The following documents should be held on site:

Should a pollution incident occur, a record of the incident, together with the remedial action(s) taken, should be maintained in an environmental incident logbook by Duchy Homes Limited or the principle contractor.



5. MATERIAL PROCUREMENT, STORAGE AND HANDLING

INTRODUCTION

This procedure applies to the procurement of timber and materials used in demolition and construction, and the storage and handling of all materials, with the exception of waste, which is addressed separately. All staff are responsible for complying with the requirements of the procedure.

RELEVANT LEGISLATION AND GUIDANCE

- ❖ **Environmental Protection Act 1990;**
- ❖ **Water Resources Act 1991;**
- ❖ **A Green Guide to Materials Specification 2002, Building Research Establishment; and**

PROCEDURE

Procurement

As a minimum all timber should be sourced in accordance with Duchy Homes Limited timber policy. In accordance with Code For sustainable Homes requirements, in order to gain maximum credits 75% of the timber and timber products used during the construction works must be from a temperate source independently certified by the Forest Stewardship Council (FSC), Programme for the Endorsement of Forestry Certification (PEFC), Canadian Standards Association (CSA), Sustainable Forestry Initiative (SFI) or the Malaysian Timber Certification Council (MTCC).

Other construction materials should be responsibly sourced wherever possible i.e. suppliers should hold a certified Environmental Management System for both the extraction of the raw materials e.g. stone, clay, aggregate etc and the process stage. Materials should be sourced locally where possible. HYR approval of materials will be required prior to placement of orders.

Storage

All raw materials should be appropriately stored on site to minimise damage by vehicles, weather or theft.

Secure storage should be provided for items of high value, materials which are hazardous or which are easily damaged.



Goods should be delivered on an “as needed/ just in time” basis to reduce stockpiling on site, damage from vehicles and other causes of wastage.

DOCUMENTATION

Chain of custody certificates for sustainably-sourced timber used during the works should be maintained in a designated file.



7. CONTROL OF EMISSIONS TO AIR

INTRODUCTION

This procedure applies to the management of emissions to air during the development works. All staff are responsible for complying with the requirements of the procedure. Dust nuisance occurs more readily during prolonged dry weather and especially in strong winds. Consequently, good site management includes the ability to respond quickly to such conditions.

Good Practice advises that developments should seek to minimise pollution, including that to air, water, land, light and noise. Guidance from the Building Research Establishment states that the most effective mitigation technique for dust control is to prevent dust from becoming airborne, since it is difficult to suppress after this stage. Best practice construction methods will be implemented to control the generation of dust during construction works. and indicates that use of Best Practicable Means to control dust should be sufficient, if properly implemented.

POTENTIAL IMPACTS

- ❖ Nuisance from dust deposition onto surfaces such as clothes, cars or windows;
- ❖ Emissions from site plant and construction vehicles may adversely affect local air quality; and Impact on sensitive individuals from dust inhalation and air pollution.

RELEVANT LEGISLATION AND GUIDANCE

- ❖ Environmental Protection Act 1990;
- ❖ Control of Substances Hazardous to Health Regulations 1994;
- ❖ Control of Pollution Act 1974;
- ❖ Clean Air Act 1993;
- ❖ The Health and Safety at Work Act 1974;
- ❖ The Air Quality (England) (Amendment) Regulations 2002; and
- ❖ BRE “Controlling particles, vapour and noise pollution from construction sites” 2003.

PROCEDURES



Visual inspection of the site should be undertaken at regular intervals by Duchy Homes Limited or principle contractor. If dust clouds are observed, action should be taken immediately, notwithstanding any ongoing dust monitoring measurements.

The following mitigation measures should be implemented by all Contractors at all times to reduce dust and other emissions from site activities and minimise disruption or nuisance to neighboring occupiers:

- ❖ Spraying of water at or on work faces, loading operations and access roads especially during dry conditions;
- ❖ Avoidance of dry sweeping during extended periods of dry weather;
- ❖ Use of designated vehicle routes and restriction of vehicle speeds on site to 10mph;
- ❖ Restricting 'drop heights' during lorry loading;
- ❖ Avoidance of prolonged storage of debris on site or exposure to wind;
- ❖ Storage of materials as far away from the site boundary as possible;
- ❖ Screening, covering or wetting loose material;
- ❖ Turning off the engines of waiting vehicles;
- ❖ Use of properly maintained vehicles and plant;
- ❖ Avoiding the burning of waste materials on site; and
- ❖ Ensuring that all site workers are provided with appropriate Personal Protective Equipment (PPE).
- ❖ In addition, Duchy Homes Limited or principle contractor will be responsible for:
 - ❖ Road sweeping;
 - ❖ Maintenance of hoarding and screening around the site; and

All contractors must ensure that all plant and vehicles are in good repair and conform to the manufacturers' or legislative standards.



Wherever possible, plant must not be left running for long periods when not directly in use. Site traffic should be routed as far from residential and commercial properties as possible. Where appropriate, gas or electrically powered plant should be used instead of petrol or diesel.

Monitoring

Monitoring would be undertaken in response to nuisance complaints, and would be the responsibility of the Duchy Homes Limited or principle contractor.

Activities likely to produce high dust levels, e.g. during earthmoving or ground works, with less frequent monitoring required during activities with a lower potential to generate dust.

DOCUMENTATION

The following must be held on file:

- ❖ Details of corrective action taken if complaints are received or if Action Levels are exceeded; and
- ❖ Plant maintenance and defect reports.



8. NOISE AND VIBRATION

INTRODUCTION

This procedure applies to the management of noise and vibration during the construction works. All staff are responsible for complying with the requirements of the procedure. Noise of plant, vehicles and radios should be kept down with the volume maintained at a reasonable level.

Current ambient noise levels are generally dominated by traffic noise. Ambient vibration levels within and around the site are due primarily to nearby movements of vehicles and pedestrians but are low and insignificant.

Noise Action Levels

Action Levels could be set for noise at the site boundary, but this would be at the discretion of Duchy Homes Limited and would be subject to agreement with the Noise Control Officer at Barnsley Metropolitan Borough Council. The use of Best Practicable Means to control noise should be sufficient, if properly implemented.

Vibration Action Levels

With regards to cosmetic damage to buildings, it is highly likely that occupants would complain and alternative techniques be adopted long before vibration levels reached a level which would give rise to cosmetic damage.

POTENTIAL IMPACTS

- ❖ Disturbance to nearby residential properties from site activities;
- ❖ Effects of noise and vibration from heavy goods vehicles transporting materials to and from the site during construction.

RELEVANT LEGISLATION AND GUIDANCE

- ❖ Environmental Protection Act 1990;
- ❖ Control of Pollution Act 1974 Part IV (Sections 60 and 61);
- ❖ BS 5228: Control of Noise on Construction and Open Sites, Parts 1 and 4;
- ❖ BS 7385: Part 2 Guide to Damage Levels from Ground Borne Vibration;



- ❖ **BS: 6472: Guide to Evaluation of Human Exposure to Vibration in Buildings (1-80Hz); and**
- ❖ **Building Research Establishment (BRE) “Controlling particles, vapour and noise pollution from construction sites” 2003.**

PROCEDURE

Liaison is to be carried out with the occupants of adjacent properties potentially most affected by noise or vibration from on-site activities prior to the commencement of works (if deemed necessary)

Site activities should be confined to the agreed working hours as detailed in the planning conditions, for any works requiring extending working hours advance notice would be provided to the Council of the hours to be worked and the activities to be undertaken.

Start up and close down periods, or up to half an hour before and up to one hour after normal working hours, could be used providing there would be no operation of plant or machinery, or deliveries, giving rise to noise likely to disturb local residents. Activities which could be undertaken within these periods include: the arrival and departure of workforce and site staff, maintenance and checking of plant and machinery, refuelling, site inspections and meetings, safety checks prior to commencing work and site clean up at the end of the day.

The following mitigation measures should be implemented by all contractors at all times to minimise noise and vibration generated from site activities and disruption to neighbouring occupiers:

- ❖ **Controlled lorry movements (including minimisation of reversing vehicles fitted with audible warnings);**
- ❖ **Use of modern, inherently quiet plant;**
- ❖ **Off site prefabrication where appropriate;**
- ❖ **The use, where necessary and practicable, of enclosures/screens and/or acoustic covers around noisy plant;**
- ❖ **Regular maintenance of plant;**

This will be provided by Duchy Homes Limited or principle contractor.

Monitoring



Where the results of the monitoring exercises indicate that the Action Levels have been exceeded, the following actions should be undertaken:

- ❖ The activity or activities causing the Action Levels to be exceeded should be identified through
 - discussions with the contractor(s);
- ❖ Investigations should be made to determine whether the activities could be easily changed or other
 - simple actions taken to substantially reduce noise or vibration levels;
- ❖ If simple and effective remedial measures are not identified, consideration should be given to the implementation of alternative techniques and/or additional mitigation measures; and
- ❖ In all cases where Action Levels are likely to be exceeded, neighbourhood liaison should be carried out to the degree that is appropriate for the levels likely to be reached and their estimated duration.

Equipment

Noise monitors must conform to a minimum Type 2 integrating sound level meter that simultaneously records LAeq, LMAX, L90 and L10 noise levels. The vibration monitors must continuously sample the vibration levels and record the maximum vertical PPV (Peak Particle Velocity) every 15 minutes for sample vibration monitoring and every 1-minute period for continuous vibration monitoring. The vibration monitors will be capable of measuring 3-dimensional levels of vibration.

DOCUMENTATION

The following must be held on file:

Noise and vibration monitoring sheets



9. POLLUTION INCIDENT CONTROL PROCEDURE

INTRODUCTION

This procedure applies to public safety, emergency and other unplanned activities during the development works. All staff are responsible for complying with the requirements of the procedure.

RELEVANT LEGISLATION AND GUIDANCE

- ❖ **Resources Act 1991;**
- ❖ **Water Industry Act 1991; and**
- ❖ **Environment Agency Pollution Prevention Guidance.**

PROCEDURE

Incidents that must be reported to Duchy Homes Limited are:

- ❖ Spills of chemicals, oils, fuels, unplanned or non-consented discharges;
- ❖ Release of fumes and gases; or
- ❖ Any incident that could lead to local authority or regulatory enforcement, public complaint or media attention.

In the event of a spillage or other pollution incident, Duchy Homes Limited shall be notified immediately and immediate steps taken to prevent environmental pollution, for example:

- ❖ Protection of drains following a spillage of oil or other chemical;
- ❖ Use of spill kits following a spillage of oil or other chemical; and
- ❖ Turning off equipment or other source of fumes, noise or dust.
- ❖ absorbent granules, sand bags and drain covers. Absorbent pads and booms should preferably be used instead of granules and sand bags where possible.

If it is considered that uncontrolled pollution may have resulted from an incident such as a release of fumes or gases or spillage, the following action will be taken:

- ❖ Ensure that it is safe to remain in the area;



- ❖ Locate and switch any isolation switches, valves or pumps if possible;
- ❖ Contact the following bodies where appropriate and follow their instructions:
 - Environment Agency Regional Office
 - Fire Brigade - South Yorkshire Fire and Rescue Service, and
 - Barnsley Metropolitan Borough Council Environmental Health Department
- ❖ Where possible undertake damage control measures to prevent dispersion of gases or pollution from entering drains or watercourses. For example, create containment sumps, pump liquid to temporary storage areas such as lined skips and block or clear drains as appropriate.

DOCUMENTATION

A logbook of environmental incidents and remedial actions taken must be maintained on site and held by Duchy Homes Limited.



10. NEIGHBOUR AND COMMUNITY LIAISON AND MANAGEMENT OF COMPLAINTS

INTRODUCTION

This procedure addresses neighbor and community liaison during the development works. Duchy Homes Limited or principle contractor is responsible for ensuring compliance with the procedure. In addition, all staff and contractors are responsible for adhering to its requirements.

PROCEDURE

Liaison

Prior to commencement of the construction works, neighboring occupiers if disruption occurs be contacted, to explain the activities to be undertaken, the duration of the works and the working hours and a contact

A clean, presentable company sign board with relevant telephone number should be maintained. A respectable standard of dress code should be maintained and inappropriate behaviour, such as “wolf whistling”, should be addressed in the site induction. Duchy Homes Limited should ensure that standards are being adhered to.

The site office should be clearly signed and staff present in reception should be able to direct unexpected visitors to an appropriate member of staff.

Neighbours should also be specifically informed about any abnormal work or road closures proposed.

All licenses issued by Barnsley Metropolitan Borough council must be displayed prominently on hoardings, scaffolds, gantries or fences.

The timing of deliveries to adjacent buildings should be considered to avoid conflict with construction vehicles.

Complaints

In the event of a complaint from a neighbour or a member of the public in relation to any activity, the remedial action taken. All site workers shall immediately notify Duchy Homes Limited or principle contractor should they receive any complaints.

Should complaints about noise, dust or vibration be received, the monitoring results at the time of the complaint should be reviewed.



receiving the complaint for further discussion and identification of a mutually acceptable resolution. Where possible, measures should be put in place to avoid recurrence of the complaint.

DOCUMENTATION

All complaints should be recorded in a complaints log book with details of remedial action taken.

EVALUATION

DOCUMENTATION

The following documentation must be retained on site for inspection:

- ❖ Environmental incident logbook containing details of environmental incidents and corrective action taken;
- ❖ Copies of discharge consents and licenses;
- ❖ Waste transfer notes, hazardous waste consignment notes and waste carriers' registrations;
- ❖ Any noise and vibration monitoring record sheets with details of corrective actions taken where the action levels are exceeded;
- ❖ Any dust monitoring record sheets with details of corrective actions taken where the action levels are exceeded
- ❖ Records of waste produced, reused, recycled and disposed of to landfill;
- ❖ Records of monthly energy usage and water usage as required;
- ❖ Records of distances travelled by each type of vehicle associated with the redevelopment works;
- ❖ Chain of custody certificates for timber;
- ❖ Plant maintenance and defect records; and



- ❖ Complaints log book with details of the response made to complaints received.