

**PROJECT:
CONSTRUCTION OF SMALL RETIREMENT COMPLEX OF TWO AND THREE
STOREY LINKED COTTAGES AND FLATS WITH COMMUNAL RESIDENT AND
GUEST FACILITIES, PARKING AND GARDEN AREAS AT BRYNEITHIN HOME
FOR THE ELDERLY, ST ANDREWS ROAD, DINAS POWYS**

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN (CEMP)



**ARCHITECT / AGENT:
NIGEL ARNOLD ARCHITECT
THE STUDIO
5 PENARTH HEAD LANE
PENARTH
CF64 1BB**

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INTRODUCTION

The Construction Environmental Management Plan (CEMP) and Code of Practice set out the management measures which the contractors will be required to adopt and implement for the construction of the Proposed Development at the site of the former Bryneithin Home for the Elderly, St Andrews Road, Dinas Powys, to manage any construction effects on the environment.

The CEMP has been prepared by Nigel Arnold Architect to satisfy the requirements of the planning conditions as determined by the Vale of Glamorgan Council in relation to Condition 9 of Planning Permission 2015/00954/FUL

The requirements of planning condition 14 are set out below.

No Development shall take place until there has been submitted to and approved in writing by the Local Planning Authority a Construction Environmental Management Plan (CEMP). The CEMP shall include details of how noise, lighting, dust, mud and airborne pollutants, vibration, smoke, and odour from construction work will be controlled and mitigated. The CEMP will include details of means of enclosure of the site during construction to ensure adequate measures are in place to protect the safety of children in the adjoining school site. The CEMP will utilise the Considerate Constructors Scheme (www.considerateconstructorsscheme.org.uk). The CEMP will include a system for the management of complaints from local residents which will incorporate a reporting system. The construction of the Development shall be completed in accordance with the approved Plan unless otherwise agreed in writing with the Local Planning Authority.

The purpose of the CEMP is to avoid construction effects on the environment and the existing surrounding communities.

The contract awarded for the application site will include a requirement of the contractor to comply with this CEMP. Contractors will also be required to follow the 'Considerate Contractor Scheme' and the 'Code of practice for construction and demolition sites'.

Contractors will be required to comply with all relevant environmental legislation and to take account of published standards, accepted industry practice, national guidelines and codes of practice appropriate to the scheme. For the duration of the contract environmental performance of the contractor will be monitored through site inspections and audits.

Contractors will be required to operate an induction scheme to ensure that all employees are aware of the site rules and their environmental responsibilities, to identify training needs for personnel and to provide appropriate training. The training will include talks for site operatives to maintain an appropriate level of awareness of environmental issues.

DESCRIPTION OF WORKS

Working Hours

The core working hours will be restricted to between the following:

08.00am to 18.00 (Monday to Friday)

08.00 to 1.00pm (Saturday)

Sundays and Bank Holidays - no construction work or deliveries to take place

NOTE: THERE IS NO REQUIRMENT FOR PILING OF FOUNDATIONS WITHIN THE DEVELOPMENT

Layout

As far as reasonably practicable and appropriate the site layout and appearance will be designed using the following principles:

The site will be fully secured.

Storage sites, fixed plant and machinery equipment and temporary offices will be located to limit environmental impacts, as far as reasonably practicable and having due regard to neighbouring accommodation as far as allowed by the constraints of the site.

Site lighting will be located and directed so as not to intrude into occupied residential properties.

Site plant and facilities will be powered from mains electrical sources where such mains sources are readily available

Hoardings

As far as reasonably practicable the visual intrusion of the construction site on nearby residents and users of local facilities and amenities will be contained and limited. The hoardings will accord with the following principles:

The standard hoarding will be of suitable height, generally plywood faced, timber framed hoarding suitably painted.

The hoarding will be increased in height and possibly altered in form to enhance acoustic or visual considerations for specific locations.

Suitable measures will be used for tree protection.

Notices will be displayed on all site boundaries to warn of hazards on site such as deep excavations, construction access, etc

Appropriate sight lines/visibility splays will be maintained to ensure safety of both vehicles and pedestrians.

Temporary fences may be used in certain areas such as for short term occupation sites.

Site Access

Construction traffic will access the site from St Andrews Road for all phases of the work.

All construction traffic entering and leaving the site will be closely controlled. The site office will be located inside the entrance gates on the right hand side as the vehicles enter the site. All delivery vehicles will be able to pull into the site and report to the site office to be directed to the designated area for unloading. A turning point will be provided on the site so all vehicles will drive straight into the site and drive out of the site. There will be no reversing from the main road in through the site entrance.

Communication

Communication with the local community and Local Planning Authority will be undertaken at an appropriate level and frequency. This will include distribution of information relating to relevant aspects of construction.

Appropriate arrangements will be made for monitoring and responding to complaints relating to relevant aspects of construction.

ENVIRONMENTAL MITIGATION / CONSTRUCTION CONTROL MEASURES

The following sections include a variety of minimum requirements to be followed by the contractor.

WASTE MANAGEMENT

Surplus or waste materials may arise from either materials imported to site or from those generated on site. This plan will outline the procedures that will be put in place.

Site Induction

Relevant waste and resource management procedures will be communicated to all operatives during the site induction.

Segregation

A specific area shall be laid out and labelled to facilitate the separation of materials for potential recycling, salvage and reuse. Recycling and waste receptacles are to be kept clean and should be marked clearly in order to avoid contamination of materials.

Site Security

The client and principal contractor must take reasonable steps to ensure security measures are in place to prevent the illegal disposal of waste at the site.

Training and Communication

The principal contractor will provide on-site instruction of appropriate segregation, handling, recycling, reuse and return methods to be used by all parties at all appropriate stages of the project.

EMISSIONS

Vehicle and plant emissions

Vehicle and plant emissions will be controlled by implementing the following measures:

- Engines of all vehicles, mobile and fixed plant on site are not left running unnecessarily.
- Using low emission vehicles and plant fitted with catalysts, diesel particulate filters or similar devices.
- Using ultra low sulphur fuels in plant and vehicles where possible.
- Plant will be well maintained, with routine servicing of plant and vehicles to be completed in accordance with the manufacturer's recommendations and records maintained for the work undertaken.
- All project vehicles, including off-road vehicles, will hold current MOT certificates, where applicable and where required due to the age of the vehicle, (or to be tested to an equivalent standard) and that they will comply with exhaust emission regulations for their class.
- Siting haul routes and operating plant away from potential receptors such as houses, schools and hospitals.
- Avoiding the use of diesel or petrol powered generators and using mains electricity or battery powered equipment where available. Maximising energy efficiency (this may include using alternative modes of transport, maximising vehicle utilisation by ensuring full loading and efficient routing).
- All commercial on road vehicles used in construction must meet the European Emission Standards pursuant to the EC Directive 98/69/EC (commonly known as Euro standards) of Euro 3 during any works.

Dust management and monitoring

Dust control procedures will be implemented to avoid as far as is reasonably practicable the emission of dust and other particulates that would adversely affect the air quality to ensure there is no significant deterioration of current air quality as a result of the works.

Dust monitoring will comprise agreed monitoring techniques at locations on site boundaries or near to local receptors. Results will be filed and available for inspection upon request.

- The emission of dust and other particulates will be controlled by implementing the following measures:
- ensure an adequate water supply on the site
- ensure disposal of run-off water from dust suppression activities, in accordance with the appropriate legal requirements
- maintain all dust control equipment in good condition and record maintenance activities
- keep site fencing, barriers and scaffolding clean using wet methods
- provide easily cleaned hardstanding for vehicles
- ensure regular cleaning of hardstandings using wet sweeping methods
- not allow dry sweeping of large areas
- provide and ensure the use of wheel-wash facilities near the site exit wherever there is a potential for carrying dust or mud off the Application Site
- ensure there is an adequate area of hard surfaced road between the wheel- wash facility and the site exit, wherever site size and layout permits
- ensure that un-surfaced haul routes and work areas are regularly damped down in dry conditions
- routinely clean public roads and access routes if required using wet sweeping methods
- ensure all vehicles carrying loose or potentially dusty material outside the Application Site are fully sheeted
- store materials with the potential to produce dust away from site boundaries where reasonably practicable
- ensure sand and other aggregates are stored in sheltered areas and are not allowed to dry out
- minimise the amount of excavated material held on site

- use enclosed rubble chutes and conveyors where reasonably practicable or use water to suppress dust emissions from such equipment
- sheet or otherwise enclose fully loaded bins and skips
- carry out site inspections regularly to monitor compliance with dust control procedures set out above
- all loads entering and leaving site will be covered

LIGHTING

In determining the lighting arrangement on site, consideration will be given to residents and other sensitive receptors that may experience a nuisance by light. Where appropriate measures will be implemented to reduce obtrusive light.

Where possible a daylight only construction schedule will be adopted to minimise adverse lighting. It is unavoidable that construction work may require work during the hours of darkness in consideration of shorter daylight availability during winter months.

Where appropriate the following measures will be considered for implementation

- Dim or switch off lights where it is safe to do so
- Use specifically designed equipment
- Position lights sensibly

NOISE AND VIBRATION

The contractor will be required to comply with other relevant provisions of the Control of Pollution Act 1974 and the Environmental Protection Act 1990. The contractor should also comply with the recommendations set out in BS 5228:1997 AMD 1 Code of practice for noise control on construction and demolition sites.

Works plant and equipment must also comply with the Noise at Work Regulations 1989 in order to protect on-site personnel. Technique and choice of equipment should be dependent on the nature of the surrounding buildings and the environment

Vehicles and mechanical plant used for the purpose of the works shall be fitted with effective exhaust silencers and maintained in good and efficient working order and operated in such a manner as to minimise noise emissions. For each item of plant used in the works, the values quoted in the relevant EC Directive/UK statutory instrument, where appropriate, should not be exceeded (e.g. S.I.1984/1992, 1985/1968, 1987/1730, 1988/361, 1989/1127).

Muffling should be in accordance with the recommendations set out in BS 5228:1997, Code of practice for noise control on construction and demolition sites:

- compressors should be fitted with properly lined and sealed acoustic covers, which should be kept, closed whenever in use
- pneumatic percussive tools should be fitted with mufflers or silencers of the type recommended by the manufacturers
- machines in intermittent use should be shut down in the intervening periods between work or throttled down to a minimum
- care should be taken when loading or unloading vehicles or dismantling scaffolding or moving materials etc. to reduce impact noise
- the delivery and collection of skips is a very noisy operation. In noise sensitive areas this operation will be restricted only to specified hours
- The contractor will follow best practicable means to reduce the noise effect on the local community including the following:
 - each item of plant used on the worksites should comply with the noise limits quoted in the relevant European Commission Directive 2000/14/EC/United Kingdom Statutory Instrument (SI) 2001/1701.
 - the recommendations set out in Annex B of Part 1 of BS 5228 and Sections 7.3 and 9.2 of Part 4 of BS 5228 with regard to noise and vibration options will be adopted unless agreed in advance with the relevant local authority.
 - materials will be handled with care e.g. material such as scaffolding and steelwork will be placed rather than dropped.
 - drop heights of materials from lorries and other plant will be kept to a minimum.
- with regards to the piling of foundations, if this is required for any of the proposed buildings, to ensure where possible, that noise and vibration effects during these works are minimised .
- fixed and semi-fixed ancillary plant such as generators, compressors and pumps liable to create noise and/or vibration whilst in operation will, as far as reasonably practicable, be located away from sensitive receptors.
- the use of barriers to absorb and/or deflect noise away from noise sensitive areas will be employed where required and reasonably practicable.
- all plant used on site, paying particular attention to the integrity of silencers and acoustic enclosures will be maintained in good and efficient working order and operated such that noise emissions are minimised as far as reasonably practicable.
- as far as reasonably practicable, any plant, equipment or items fitted with noise control equipment found to be defective should not be operated until repaired.

- where reasonably practicable, fixed items of construction plant should be electrically powered in preference to diesel or petrol driven.
- vehicles and mechanical plant employed for any activity associated with the construction works will, where reasonably practicable, be fitted with effective exhaust silencers and will be maintained in good working order and operated in a manner such that noise emissions are controlled and limited as far as reasonably practicable.
- machines in intermittent use should be shut down or throttled down to a minimum during periods between work.
- as the various phases of the Proposed Development are completed and occupied, ongoing construction works may affect future residents. Some construction works will be carried out in close proximity to occupied buildings. For each phase, and sub-phase, of the Proposed Development, detailed method statements should be developed to demonstrate how these impacts will be managed and disturbance kept to a minimum.

Occupiers of nearby properties will be informed in advance of the works taking place, including the duration and likely noise and vibration impacts.

WATER MANAGEMENT

Generally, all works will be undertaken in accordance with the recommendations of the CIRIA document 'Control of Water Pollution from Linear Construction Projects' (see Appendix A), and the Environment Agency document 'Pollution Prevention Guideline PPG07 (Oct 2007)' (see Appendix B).

All hazardous substances (including liquids and solids) will be stored within impermeable, bunded areas, to remove the risk of migration to groundwater or a nearby watercourse to the satisfaction of the Environment Agency. The measures proposed will assist in avoiding or minimising the potential for contaminants and suspended solids to migrate to surface and groundwater, reduce localised flood risk, and protect water quality and the ecosystems the water resources support.

The following list shows measures that should be put in place to prevent pollution and would conform to the best practice policy proposed by the Environment Agency (EA) via the Pollution Prevention Guidelines (PPGs):

- the handling, use and storage of hazardous materials to be undertaken in line with the EA's Pollution Prevention Guidelines (e.g. PPG2 Above Ground Oil Storage Tanks);
- adequately bunded and secure areas with impervious walls and floor for the temporary storage of fuel, oil and chemicals on site during construction;
- drip trays to collect leaks from diesel pumps or from standing plant;
- oil interceptor(s) fitted to all temporary discharge points and for discharge from any temporary oil storage/ refuelling areas;
- development of pollution control procedures in line with the EA's Pollution Prevention Guidelines, and appropriate training for all construction staff;

- provision of spill containment equipment such as absorbent material on site.
restrictions on use of unnecessary machinery near adjacent water bodies;
- the treatment of any runoff from development areas with elevated suspended solids prior to discharge. Approval will be obtained from the EA for any discharges to controlled waters. Treatment measures could include perimeter cut-off ditches, settlement lagoons, overland flow and/or settlement tanks;
- wheel wash facilities should be provided for vehicles moving to and from the Application Site at all entry and exit points. Silty water from wheel-wash
- facilities will require appropriate disposal to prevent unacceptable levels of suspended solids entering any nearby surface water bodies. As noted above, any disposal of surface water generated on site during construction to controlled waters will require consent from the EA. Wheel wash facilities should not be located too close to surface waters
- if dewatering is required along any part of the construction corridor, pumped groundwater should be disposed of appropriately according to EA Pollution Prevention Guidelines;
- the early re-seeding of cleared land, where practicable, to minimise exposed land and the entrainment of sediment by overland flow; and this can be managed by ensuring construction plant/ materials are stored on hardstanding surfaces where possible. Where this is unavoidable, the Contractor will ensure any compacted topsoil is loosened as soon as possible following completion of the works;
- Attenuation ponds within each identified drainage catchment to be constructed first and used to attenuate and store run-off from the Application Site during construction to prevent contamination of the surface and groundwaters.

Drainage

Site drainage, including surface runoff and dewatering effluents, will be discharged to sewers where reasonably practicable. Site drainage will meet the requirements for effluent and flood risk standards required by the sewerage undertaker.

The relevant sections of BS6031:2009 Code of Practice for Earthworks for the general control of site drainage will be followed.

Reference should be made to SuDS best practice during construction, especially Site handbook for the construction of SUDS (C698) (2007).

Protection of Watercourses

During construction, protection measures to control the risk of pollution to surface water will be adopted. These will include:

- Any containers of contaminating substances on site will be leak proof and kept in a safe and secure building or compound from which they cannot leak, spill or be open to vandalism. The containers will be protected by temporary impermeable bunds with a capacity of 110% of the maximum stored volume. Areas for transfer of contaminating substances will be similarly protected
- All refuelling, oiling and greasing will take place above drip trays or on an impermeable surface which provides protection to underground strata and watercourses and away from drains as far as reasonably practicable. Vehicles will not be left unattended during refuelling.
- Only construction equipment and vehicles free of oil/fuel leaks which could cause material contamination will be permitted on site. Drip trays will be placed below static mechanical plant.
- All wash down of vehicles and equipment will take place in designated areas and wash water will be prevented from passing untreated into watercourses and will comply with EA's Pollution Prevention Guidance (PPG) note PPG13.
- EA note PPG 23 will be followed when carrying out maintenance of structures over water. As far as reasonably practicable, only biodegradable hydraulic oils will be used in equipment working in or over watercourses.
- Appropriate measures to be taken to protect erodible earthwork surfaces.

Control of Pollution of Groundwater

The Pollution Prevention Measures and good construction practices will ensure that any oils, hydrocarbons or hazardous materials stored on site will not leak onto the ground surface and thereby ensure that there is no pathway for contaminants to affect the existing drainage watercourse running along eastern boundary of the site. These techniques will also ensure that surface water bodies and associated ecosystems are protected as there is a hydraulic connectivity between these bodies and the groundwater.

Protection measures to control the risk of pollution to groundwater will be consistent with the Groundwater Regulations 1998. Where reasonably practicable, the use of materials that could pollute groundwater will be avoided. This will include special consideration for the use of substances contained within List I and II of the Groundwater Regulations SI 1998/2746 (Groundwater Directive: 80/68/EEC)

EMERGENCY PLAN

General Arrangements

A set of standardised emergency response procedures will govern the management of environmental incidents. Construction contractors will be required to adhere to and implement these procedures and ensure that site operatives are familiar with the emergency arrangements.

The emergency procedure will contain emergency phone numbers and the method of notifying local authorities and statutory authorities. Contact numbers for key personnel will also be included.

Dealing with Spills

A site drainage plan should be kept on each of the worksites showing the water interests in the vicinity of the Application Site. This plan will include the location of both foul water drains and surface water drains. Spill kits will be kept on each of the worksites. The precise contents and capacity of the spill kits will depend on the detailed inventory of products that will be stored and handled on the Application Site, however they are likely to contain:

oil-absorbent granules;

string;

floating "booms" or "sausages";

gloves;

absorbent mats;

knives;

drain covers;

shovels;

polythene sheeting and bags

The spill kits will be clearly marked, sign-posted and held close to the area where materials are stored and handled.