

ENVIRONMENTAL POLICY

1 ENVIRONMENTAL

This procedure sets out the standard controls that should be implemented at Projects with regard to:

- environmental objectives and reporting requirements
- water resources
- nuisance & general operational controls
- waste management
- environmental emergency control

2 Environmental Objectives & Reporting

As established in section 1 of this manual and following our aspect and impact assessment we have established the following site and office objectives:

2.1 Site Objectives

- Achieve environmental legal compliance as a minimum requirement
- establish policy & procedures
- monitor changes in legislation and implement into procedures
- measure performance through inspection and auditing
- review with management and report
- Prevention of Pollution
- establish policy & procedures
- measure site performance through inspection and auditing
- review with management and report
- Achieve & Maintain Accreditation to BS ISO 14001:2004 (continual improvement)
- establish policy & procedures
- Plan and monitor implementation and operation
- Measure performance through inspection and auditing
- review with management and report
- Record all Emergency & Near Miss Situations
- establish policy & procedures
- Plan and monitor implementation and operation
- Measure performance through inspection and auditing
- review with management and report
- Site Waste
- set target for reducing the volume of waste on site
- implement measures to reduce

- monitor and report on progress

2.2 Office Objectives

- Energy & Water Consumption
- to initially determine the level of energy/water consumption in all regional offices
- set target for reducing energy consumption

- implement measures to reduce
- monitor and report on progress
- Office Waste
- set target for reducing waste
- implement measures to reduce
- monitor and report on progress
- Resource Management (A4 Paper)
- Complete cost benefit analysis regarding usage of 100% recycled paper
- monitor and report on progress
- Transport - to begin determining the level of CO² emissions from the ISG regions fleet of vehicles.

3 Environmental Reporting Primary Requirements

All Cambrian Civil Engineering sites are required to complete a monthly environmental report.

The following items need to be measured and reported during the period January to December:-

Generally		
1	Pollution Incidents	Number and details of all pollution incidents in the year.
2	Environmental Fines	Number and full details of any prosecutions for breaches of environmental legislation and details of any fines
3	Paper Usage	How much paper (equivalent to A4 sheets) was used in the year? Does it come from recycled or sustainable sources?

Offices (not including construction site offices)		
1	Electricity Usage	How much electricity does each office use in kWh each month
2	Gas Usage	How much gas does each office use each month
3	Water Usage	How much water does each office use each month
4	Office Recycling	What is recycled in each office and provide details for each recycled amount in Kg

Construction Sites		
1	Waste	How much waste is produced on each project split into waste streams measured in Kg and m3 per £100,000 of project value?
2	Recycling	How much of the waste on each project was recycled and split into waste streams and measured in Kg?
3	Electricity Usage	How much electricity was used on each project measured in kWh?
4	Water Usage	How much mains water was used on each project? Measured in m3 per £100,000 of project value
5	Client Environmental Satisfaction	On a score of 1-10 how satisfied was the client with our environmental performance

4 External Communication

It is the policy of the company not to divulge any environmental aspect and impact to external sources unless express permission has been provided by the Managing Director.

5 Water Resources

This procedure sets out the standard controls that should be implemented at Cambrian Civil Engineering Projects with regard to water resources. In particular it provides controls in respect of:

- Surface waters
- Ground waters
- Pipe or sewer

The above descriptions describe 'Controlled Waters'

Failure to adequately prevent pollution of controlled waters, both deliberately or accidentally, is a statutory offence and can lead to prosecution with associated costs and delays. This procedure should be read in conjunction with:

- Environmental Emergency Control (EEC) which details spill kit provisions and incident controls

The controls detailed in this procedure will form the basis of any specific operational controls adopted by the Site Managers in the Construction Phase Plan to address site specific environmental risks.

5.1 Definitions

5.1.1 Controlled Waters

- Includes all watercourses (e.g. ditches, brooks, dykes, streams, rivers and estuaries), canals, coastal waters and water contained in underground strata (groundwater), ponds, lakes or any of the preceding that for the time being remain dry.

5.1.2 Groundwater Protection Zones

- A Groundwater Protection Zone (GPZ) is an area of land surrounding a groundwater abstraction source, designated by the Environment Agency as requiring necessary protection. GPZs include Zone I (Inner Source Protection), Zone II (Outer Source Protection) and Zone III (Source Catchment's).

6 Consents

Works affecting controlled waters or in the vicinity of watercourses (up to 8 metres) may require consent. These may include:

- Discharge to controlled waters (from Environment Agency – can take up to 180 days)
- Discharge to sewer (from sewerage undertaker) - can take up to 180 days)
- Abstraction license (from Environment Agency – can take up to 3 months)
- Approval under the Groundwater Regulations 1999
- Temporary consent for the construction project may be granted by the above agencies.
- ALL CONSENTS WILL COME WITH CONSTRAINTS WHICH MUST BE FOLLOWED.
- ALL CONSENTS MUST ONLY BE ACCEPTED IF THEY ARE IN WRITING BY THE RELEVANT UNDERTAKER.

Identify, at planning stage if consent to discharge may be required. If identified, samples of the ground waters must be obtained and sent for laboratory analysis to a UKAS accredited testing laboratory.

The results of the analysis will determine whether water is 'clean' or contaminated effluent.

- 1.7 'Clean' means – free from any suspended matter including suspended solids, metals, organic and inorganic matter.
- 1.8 'Trade Effluent' - means, any liquid, including particles of matter and other substances in suspension in the liquid.

7 Pollution Control

Many construction activities have the potential to cause pollution to controlled waters or water courses unless they effectively controlled.

The following section sets out basic controls/best practices for those activities that have the potential to pollute.

It should be noted that each site is different and therefore controls often need to be adapted to suite individual site needs.

7.1 Spill Response

All projects should carry spill response equipment (Kits) that have been sized to fit the residual risk. All company vans and commercial vehicles should carry a small basic spill response kit.

All Site/Offices must ensure spill response equipment is located at easily assessable locations

Site/Office locations must fulfil the requirements of this procedure.

Site/Office location must ensure are personnel are aware of the spill response procedure.

Site/Office locations must ensure any spillage response materials are disposed of in the correct manner.

The following spill response procedure must be posted on site/ office notice boards and communicated to all:

SPILL RESPONSE PROCEDURE

STOP	CONTAIN	NOTIFY
<p>STOP:</p> <ul style="list-style-type: none"> • Stop work immediately • Stop more material spilling i.e. close valves, right the drum etc. • Stop any source of ignition • Stop smoking 	<p>CONTAIN:</p> <ul style="list-style-type: none"> • Contain the spill using, sand or earth to form a bund • Prevent the spill from entering water courses or drains • Bund off gullies and manholes 	<p>NOTIFY:</p> <p>Notify the site management giving the following information:</p> <ul style="list-style-type: none"> • Whether it may enter a drain or water course or affect the environment • Exact location of the incident • Nature of the material/liquid • Quantity of the spill • Reason for pollution
<p>Check:</p> <ul style="list-style-type: none"> • Spill response equipment is located at easily assessable locations; • All are aware of this procedure; • Spillage response materials are disposed of in the correct manner. 		

7.2 Pollution Controls Table

Activities that can give rise to pollution	Potential Aspects and Impacts	Controls
Site setup	Pollution of watercourses and groundwater during periods of flooding.	<ul style="list-style-type: none"> • Ensure any existing flood defences are maintained. Any works must be approved by the EA in England and Wales and by the Planning Authorities in Scotland; • Set up stores on the highest ground within a site and away from watercourses, typically at least 10 metres; • Do not leave containers or hazardous liquids around the site – return to the main storage compound. • Ensure interceptors are located under all static plant & equipment • Obtain site and surrounding areas drainage plans
Site runoff	Uncontrolled runoff with high suspended solid load.	<ul style="list-style-type: none"> • Keep areas of hard standing clean through regular sweeping. • Minimise the area stripped of vegetation and topsoil. Vegetation stops silt builds up by protecting the soil and acting as a filter. • Construct silt traps, fences, straw bales or grips to control the flows of surface run-off and settle out suspended solids. • Ensure all works adjacent to, or flows of water into watercourses have a suitable buffer strip of vegetation. • Undertake regular inspections of the controls to ensure they are working effectively and record findings etc.

Activities that can give rise to pollution	Potential Aspects and Impacts	Controls
<p>Site drainage</p>	<p>Pollution of surface water watercourses and Uncontrolled discharges to foul sewer.</p>	<ul style="list-style-type: none"> • Liaise with EA or SEPA on drainage system to a surface watercourse or soakaway if necessary, consent may be required; • If required install oil interceptors on drainage systems from areas of hard standing and for refuelling. Always maintain oil interceptors in accordance with manufacturers requirements; • Keep hard standing areas clean of silt and oils; • Ensure that equipment and materials which would be liable to float away are not stored within areas at risk from foreseeable flooding nor within 10 metres of any surface watercourse; • In laying out the site ensure that all storage facilities and equipment are located as far away as reasonably practicable from any watercourse or drain. • Monitor against any consent conditions where applicable and record findings etc.

Activities that can give rise to pollution	Potential Aspects and Impacts	Controls
<p>Works above, in or near watercourses</p>	<p>Changes to flow, volume and quality.</p> <p>Increased flood risk to surrounding land.</p> <p>Loss of ecological resource and fishery potential.</p>	<ul style="list-style-type: none"> • Works above, in or near watercourses may require Land Drainage Consent (see CP67) • Refuel at least 10metres from any watercourse; • Only discharge direct to a watercourse if permitted by the EA in writing and you have consent; • Prevent plant and equipment entering a watercourse; • Retain strips of vegetation adjacent to surface watercourses; • Site spoil heaps, temporary stockpiles, haul roads at least 10 m from a watercourse and away from drainage systems • Visually monitor the watercourse on a regular basis for colour changes, oils, flow changes, suspended solids; • Ensure consent parameters are monitored if applicable and record findings etc.; • Where necessary and practicable use booms downstream of works to prevent the spread of accidental pollution; • Control the use of potentially polluting materials in and around watercourses; • Seek EA or SEPA approval for your proposed method of works.
<p>Dewatering</p>	<p>Changes in ground water levels.</p> <p>Discharges with high suspended solid load.</p>	<ul style="list-style-type: none"> • Where practicable ensure localised dewatering is discharged to vegetated areas at least 10 metres away from a watercourse, you may only discharge CLEAN water in this manner; • Only discharge direct to a watercourse or drain if permitted by the EA or SEPA and have consent in writing; • If direct to a watercourse or road gully follow the constraint of your consent i.e. settlement or filtering devices are in use.

Activities that can give rise to pollution	Potential Aspects and Impacts	Controls
Directional Drilling & Bentonite use and storage	Pollution of surface water watercourses. Discharges with high suspended solid load.	<ul style="list-style-type: none"> • Ensure launch pits are not likely to cause damage to associated watercourses or pollution via leakage; • Contain spent drilling fluids in a designated tank or lined settlement lagoon; • Monitor for breakout during drilling operations; • Ensure drilling fluids are stored away from watercourses in suitable containers; • Ensure static plant and equipment have integral interceptors or suitable drip trays; • Maintain a suitable spill kit on site.
Refuelling	Direct pollution of watercourses/grou ndwater by spillages	<ul style="list-style-type: none"> • Refuel in designated areas on hard standing, where possible; • Supervise fuel deliveries; • If refuelling using a mobile bowser ensure that a spillage kit is close by and do not refuel with 10m of a watercourse or drain; • Ensure that fuel delivery systems have automatic shut-off 'pistol grip' type nozzles; •
Oil & chemical storage	Direct pollution of watercourses/grou ndwater	<ul style="list-style-type: none"> • All oil storage facilities, including mobile bowser, drums and fixed tanks must meet the following requirements: • be bunded (to 110%), all pipework must be stored within the bund and be located at least 10m away from watercourses or road gully's and away from drainage systems be lockable •

Activities that can give rise to pollution	Potential Aspects and Impacts	Controls
Vehicle Washing & maintenance (including wheel washes)	<p>Direct pollution of watercourses/grou ndwater</p> <p>Discharges with high suspended solid load</p>	<ul style="list-style-type: none"> Wash down plant and equipment in designated areas; Ensure that they are appropriately drained (see above) or contain the wash down effluent and dispose of appropriately.
Wastewater disposal – offices and other facilities	<p>Direct pollution of watercourses/grou ndwater</p>	<ul style="list-style-type: none"> Where possible dispose to foul sewer. If unavailable use septic tanks or use cess tanks. Note that septic tanks will need to be agreed with the EA or SEPA and consent may be required; Discharge consent is normally requires for soakaways. Ensure tanks are emptied frequently and maintained.
Demolition	<p>Direct pollution of watercourses/grou ndwater</p> <p>Discharges with high suspended solid load</p> <p>Emissions of dust and other polluting materials</p>	<ul style="list-style-type: none"> Prior to decommissioning above or below ground tanks that the contents have been determined by analysis do not discharge contents down a drain or into a watercourse; Ensure demolition activities are controlled to prevent emissions of dust or solid debris from affecting watercourses.
Storage of contaminated material	<p>Uncontrolled runoff with high suspended solid load and/or contamination</p>	<ul style="list-style-type: none"> Contain contaminated material in a bunded area prior to disposal; Ensure that if contamination is leachable and effluent is to a drain or sewer ensure that it is compliant with any conditions for discharge or it is collected and appropriately disposed.

Activities that can give rise to pollution	Potential Aspects and Impacts	Controls
Concreting	Direct pollution of watercourses/groundwater	<ul style="list-style-type: none"> Place concrete carefully to avoid direct contamination of watercourses; Wash out concrete wagons in designated areas away from watercourses and drainage systems; Setup and maintain washout containment areas or evaporation tanks for washout.
Abstraction	Changes of flow or level of water in controlled waters and water levels in surrounding land	<ul style="list-style-type: none"> Obtain relevant consents to abstract or draw water; Ensure contract road sweepers or drain jetting companies have consent to abstract; Monitor abstraction to ensure compliance with approvals.
Disposal of road sweepings	Direct pollution of watercourses/groundwater Discharges with high suspended solid load	<ul style="list-style-type: none"> Discharge road sweepings in a designated area away from watercourses or drains. If material is unsuitable for re-use then dispose of appropriately If discharged to lagoons ensure that they are suitably maintained.

7.3 Environment Agency and SEPA Pollution Prevention Guidelines

7.3.1 A list of best practice references is given below:

- PPG01 – General Guide to the Prevention of Water Pollution
- **PPG02** – Above Ground Oil Storage Tanks
- **PPG03** – The Use and Design of Oil Separators
- **PPG04** – Disposal of Sewage where no mains drainage is available
- **PPG05** – Works in, near or liable to affect Watercourses
- **PPG06** – Working at Construction and Demolition Sites
- **PPG08** – Storage and Disposal of Used Oils
- **PPG18** – Control of Spillages and Fire Fighting run-off

- **PPG20** – Dewatering Underground Ducts and Chambers
- **PPG21** – Pollution Incident Response Planning
- **PPG23** – Maintenance of Structures over Water
- **PPG26** - Storage and Handling of Drums and Intermediate Bulk Containers'
- **CIRIA** - Environmental good practice on-site (C502)
- CIRIA/Environment Agency Joint Guidelines 'Concrete Bunds for Oil Storage Tanks'
- CIRIA/Environment Agency Joint Guidelines 'Masonry Bunds for Oil Storage Tanks'

7.3.2 Useful Websites:

- Department of Environment, Food and Rural Affairs: www.defra.gov.uk
- Environment Agency: www.environment-agency.gov.uk
- English Nature: www.english-nature.org.uk

8 Waste Management

This guidance has been updated following recent changes to environmental legislation to assist those involved in the use and reuse of materials, plant and equipment on construction sites and depots to determine whether or not they are handling waste and if so their legal obligations.

From the 1st December 2013 you no longer need an SWMP by law. However, should you wish to continue to do so, you can find a template in the forms section of the process.

Environmental legislation imposes a legal Duty of Care on any person who produces, transports, or disposes of waste, or has control of such waste.

8.1 Key aspects of waste management

8.1.1 There are 4 main types of waste:

- Liquid- this cannot be disposed of at a landfill site
- Inert (general) - bricks, tiles, glass, stone (will not leach or biodegrade)
- Non hazardous - wood, metal, soil, paper, vegetation
- Hazardous - asbestos, solvent-based paints, used spill kits, fluorescent tubes

8.1.2 Storage of waste:

- Waste must be securely stored to avoid contamination from run off / wind-blown etc
- Segregate waste where possible and label skips / containers

- The storage of waste at a site, depot or office e.g. a skip or stockpile, is an exempt activity (exempt from requiring a Waste Management Licence) but the Exemption may be required to be registered with the Environment Agency.
- The Exemptions includes the storage of waste that is:
- Produced off site and brought back to a storage area - Paragraph 40 Exemption
- Or produced at the location/site - Paragraph 41 Exemption

8.1.3 Removal / transport of waste:

- Must be documented on a Waste Transfer Note (Consignment Note for hazardous)
- The waste must be identified using a six figure European Waste Code (EWC)
- All waste carried by a contractor must be licensed by the Environment Agency
- Cambrian Civil Engineering hold their own waste carriers licence for all waste types – incl. hazardous
- Removal to a facility licensed to accept the type of waste, whether that is a landfill site, a waste transfer station, a treatment facility etc
- All waste documentation is kept for a minimum of 3 years and files logically

8.1.4 Hazardous waste

- Where hazardous waste is produced at, or removed from, **any** premises, the premises **must** be registered with the EA. A premises can be a long term site
- Registration can be done online at the Environment Agency Website
- It is illegal to remove any hazardous waste from a premises that has not registered
- Hazardous waste must not be mixed or diluted with other types of waste
- When removing hazardous waste supporting documentation must be provided with the Consignment Note e.g. material data sheet, COSHH Assessment, laboratory test results etc.

8.1.5 Landfill sites

- Certain landfills can now only accept certain types of waste (e.g. Hazardous landfills / non-hazardous landfills / inert landfills)
- The different types of waste landfill sites (tips) are only licensed to receive waste that meets certain Waste Acceptance Criteria (WAC).
- It may be necessary to test or pre-treat waste before it can be accepted at a tip

8.2 Waste – Construction Industry Examples

8.2.1 Transferring materials, plant and equipment bought for use on a project

There is a need to clarify whether materials, plant and equipment that is bought for use on a site and is then subsequently transferred or sold on to another project, is waste or not. The transferring of the materials, plant and equipment could either be to another project operated by the same company or to a third party.

8.2.2 Office Equipment

Undamaged administration equipment such as computers, heaters, tables, chairs, filing cabinets, fridges, and stationary that will be used on other sites is not a waste.

8.2.3 Construction Equipment bought for use on a site

Undamaged general construction equipment is unlikely to be waste unless the decision had been made to dispose of it. Where something is damaged then it is unlikely to be waste if it can be repaired rather than disposed of.

Before cabins, bowzers, tanks and storage containers are returned to a third party supplier then any unwanted material or waste stored within them must be removed and sent for disposal.

8.2.4 Temporary Works Equipment and Materials

Undamaged general construction equipment such as sheet piles, hardcore for temporary fill and timber for formwork bought for use in temporary works is unlikely to be waste unless the decision had been made to dispose of it. Where something is damaged then it is unlikely to be waste if it will be repaired rather than disposed of.

If temporary fill material is contaminated by oils or is too wet or muddy to continue to be used; or if piles have buckled or snapped; or timber is cracked or split, then this would indicate that it is not suitable for further use and is likely to be a waste.

8.2.5 Permanent Work Materials

In certain instances there may be surplus permanent materials at the end of a project. This may be caused by either:

- the design altering changing the material requirements;
- minimum orderable volumes offered by a supplier exceeding a project requirements; or
- Over-ordering by the site team.

Undamaged materials such as sands, gravels, pipes and ducts, timber, cable, plaster board, timber, windows and doors general construction equipment is unlikely

to be waste unless the decision had been made to dispose of it. Where something is damaged then it is unlikely to be waste if it will be repaired rather than disposed of.

8.2.6 Using or providing recovered aggregates

Using crushed concrete, hardcore, planings that has been produced from construction and demolition waste is becoming more common in construction. The Waste and Resources Action Programme (WRAP) has produced a "Quality Protocol - for the production of aggregates from inert waste"¹ that sets out how inert construction and demolition waste can be processed using authorised crushing and screening equipment and become a product that is free of waste regulatory control.

8.2.7 Procuring recovered material

If you are procuring recovered aggregates then it is essential that you check that the product and producer have complied with the Quality Protocol to ensure that you are not receiving waste. If you do receive waste then you must comply with the waste regulatory control. Ask your Q&E Manager or contact the Environment Agency if you are in any doubt.

8.2.8 Transferring recovered material derived on site to a third party

If you generate inert construction or demolition wastes and process it in accordance with the Protocol¹ using authorised crushing and screening equipment, it will become a product that is free of waste regulatory control. The project team must maintain the documentation and records that show that the waste has been fully recovered.

8.3 Hazardous Waste

The Hazardous Waste Regulations took effect on 16th July 2005 and any premises where hazardous waste is produced must be register annually with the EA. It is illegal to remove any hazardous waste prior to registration.

Under the list of European Waste Codes (EWC), certain everyday wastes are now classified as hazardous e.g.

- Lead-acid batteries
- Fluorescent light tubes
- Used engine oils and filters
- Concrete wash out
- Hydraulic oil including hoses
- Coal tar macadam

¹ The Quality Protocol is available from http://www.aggregain.org.uk/quality/quality_protocols/index.html

8.3.1 Premises Notification

- All depots and non-transient sites where waste classified as hazardous is produced or stored must register with the Environment Agency.
- Office premises are exempt from the need to register with the EA if less than 200 kg of hazardous waste is produced in any 12-month period.
- Transient sites / work activities are exempt so long as the operating premises i.e. controlling depot, are registered with the EA and have received their premises code. However advice should be sought from the EA via the Q&E Manager to ensure the arrangements satisfy the local EA office.
- There is also a 'Batch' (multiple) application process available on the EA website. Payment can be made by cheque, credit card or using 'BACS'.
- Waste carriers and disposal companies are offering to manage the registration process for a fee.
- Site Managers must keep a record of the quantities and type of hazardous wastes they dispose of.

8.3.2 Information required for notification

- The number of employees (within a range)
- Valid e-mail address
- The Standard Industry Classification Code (SIC 2003) for the process producing the waste. (refer to Appendix 6)
- Company's House number

9 Nuisance & General Operational Controls

This procedure sets out the standard controls that should be implemented at Cambrian Civil Engineering Projects with regard to nuisance and other general operational controls. In particular it provides controls in respect of:

- **Ecological & Archaeological Resources**
- **General Controls**

If any species or habitats of statutory importance are identified prior to or during the works then Project Manager should be contacted immediately in order to develop relevant mitigation measures.

The following general site controls should be implemented at all times:

9.1 Bird Nesting Season

Nesting birds are protected under the Wildlife and Countryside Act 1981.

- No tree felling or scrub clearance should be undertaken during this period (generally considered to be from the beginning of April to the end of July).

- The advice of a specialist should be enlisted and checks made for any nests where clearance is essential close to this period.
- It is an offence to worry or disturb any nesting birds. A demarcation zone should be setup around any nesting site until the birds have flown.

9.2 Invasive and Injurious Plants

It is an offence to propagate or to cause the spread of Japanese Knotweed, Giant Hogweed, Ragwort and Himalayan Balsam. These plants spread rapidly reducing wildlife value, and causing structural damage. Giant Hogweed also affects human health. Its poisonous sap causes painful blistering and severe irritation. Soils containing these plants, including the roots, are regarded as 'contaminated' and must be treated or disposed of appropriately.

Where invasive or injurious plants are encountered on the site the following controls should be implemented and the advice of your manager should be sought;

- Temporary fences should be erected around stands of the plants, and warning signs erected to indicate that they are 'no-go' areas.
- Vehicles, equipment and clothing should be checked before leaving the site to ensure that they are free of contaminated soil and plant fragments.
- The 'Environment Agency Code of Practice for the Management, Destruction and Disposal of Japanese Knotweed' should be consulted for further controls relating to Japanese Knotweed.

9.3 Tree Protection

It is an offence to kill or remove a tree that is covered by a tree preservation order (TPO) without prior permission from the Local Authority. You may also require a felling licence from the Forestry Commission.

The following controls should also be implemented to ensure that no damage is caused to trees on site during the works:

- Minimise the clearance of vegetation to only that which is necessary
- Where necessary erect temporary fencing around trees (approximately 3 m away from the trunk or evidence of roots)
- Undertake work by hand or use trench less techniques if work under a tree is unavoidable
- Ensure that no materials, spoil, or fuel are stored under or near trees.

9.4 Hedgerows

Some hedgerows are protected under law because they have significant importance for nature conservation and/or landscape amenity. It is an offence to damage or

remove protected hedgerows without prior permission from the Local Planning Authority.

To ensure protected hedgerows are not damaged by works then the following controls should be adopted:

- Minimise the clearance of vegetation to only that which is necessary
- Where necessary erect temporary fencing around protected sections of hedgerow
- Ensure that no materials, spoil, or fuel are stored in close vicinity to protected hedgerows
- Ensure temporary access points do not affect protected hedgerows

NB – the controls relating to tree preservation orders and protected hedgerows particularly apply where works are being undertaken under the General Permitted Development Planning regime.

10 Archaeological controls

Where the contract or Planning Conditions or a substantiated inquiry identifies archaeological important areas or features, including Special Ancient Monuments, then the site should procure the services of Archaeological Specialist. The advice of specialist will be complied with during works affecting the relevant feature or area.

Use of archaeological specialists should always be undertaken in liaison with the Cambrian Civil Engineering Manager.

Where the works are identified during tendering, allowance in the programming should take into account necessary archaeological investigation. Should an item of archaeological importance unexpectedly be found on site the Project Manager should be immediately notified and they should liaise with the County Archaeologist relating to procedural controls. These should include, but are not limited to, the following actions:

- Works in the area shall be stopped immediately
- Fencing shall be erected around the find
- The advice of an Archaeological Specialist shall be sought

Works should not be undertaken adjacent to areas of archaeological importance without consultation with the relevant bodies. Types of damage that may be caused include disintegration due to vibration, consolidation and cracking and settlement due to dewatering.

10.1 Dust and Mud Prevention

The project manager will plan and implement practicable controls on site where required. Typical controls include the following:

10.1.1 Measures for control of site operations

- Equipment likely to generate excessive quantities of dust shall be enclosed, shielded or where appropriate fitted with dust extractors, filters and scrubbers, which shall be maintained in accordance with the manufacturers' specifications.
- The number of material handling operations shall be kept to a minimum.
- Drop heights of friable materials onto vehicles and conveyors shall be kept to a practicable minimum. Conveyor transfer points shall be enclosed and dry conveyor loads shall be damped so as to prevent dust emissions.
- Cutting and grinding operations on site shall be conducted using equipment and techniques which suppress and reduce dust emissions (wet cutting).
- Where appropriate, wind breaks, netting screens or semi-permeable fences shall be used to reduce dust emissions from working areas and/or screen sensitive locations.
- No burning of rubbish or any other activity likely to give rise to smoke on or off the site shall be permitted without the permission of the Local Authority and an exemption from the Waste Management Licensing Regulations 1994 from the Environment Agency.

10.1.2 Measures for material storage

- Bulk cement and shall be delivered by tanker.
- Bulk cement and shall be stored in silos or other bulk storage device.
- Appropriate measures shall be taken when replenishing silos to avoid accidental spillage, including the use of audible and visual alarm systems.
- The mixing of large quantities of concrete or bentonite slurries shall take place in enclosed or shielded areas
- Fine, dry materials shall be stored within buildings or with adequate protection from the wind.
- Silos and stockpiles shall be positioned as far as is reasonably practicable away from residential areas, places of public access or other sensitive receptors (such as watercourses).
- Slopes of stockpiles, tips and mounds shall be maintained at an angle not greater than the natural angle of repose and sharp changes of shape shall be avoided.
- Handling areas shall be maintained so far as reasonably practicable to reduce the risk of dust emissions.
- Procedures for the regular inspection of storage and handling facilities for fine, dry materials shall be established, including procedures for the prompt clearance of any spillage. Where practicable spillages of cement powder shall be cleared using wet handling.

10.1.3 Use of dust suppressants

- Where dust is, or is likely to be generated, static sprinklers, bowsers and other watering methods, shall be employed to control dust generated during the works.
- If giving rise to dust emissions, the surfaces of stockpiles of dry, friable materials shall be damped by controlled application of water sprays or shrouded or screened as appropriate and necessary. If appropriate and necessary, binding or surface crusting agents shall be applied to long term inactive stockpiles of such materials to prevent dust emissions.

10.1.4 Control of vehicle emissions and movements

- Paved haul roads and associated vehicle waiting areas shall be regularly inspected and kept cleaned of all mud and dusty materials.
- Unpaved roads and verges shall be maintained in a compacted condition as appropriate and necessary.
- General site traffic shall be restricted to watered or treated haul roads.
- Speed limits shall be established and enforced over all site traffic routes.
- Agreed routes of haulage and movements of site vehicles will be adhered to.
- No vehicle or equipment emitting visible black smoke from its exhaust system other than during ignition shall be used on any construction site or public highway.
- Combustion engines shall not be left running unnecessarily.
- All plant and vehicles used on site will be regularly serviced.
- All vehicle and equipment engines and exhaust systems shall be maintained so that exhaust emissions do not breach EU statutory limits set for vehicle/equipment type and mode of operation. All vehicles and equipment are to be maintained in accordance with manufacturer's guidance.
- All construction vehicles licensed to go on public highways must have valid MOT test certificates.

11 Noise Controls

Noise and vibration can disturb local residents and give rise to complaints and delays. Typical noisy activities include excavation, tunnelling, piling, concrete cutting, concrete pours and use of un-silenced generators.

Sites will control noise and vibration from their activities by implementing Best Practicable Means (BPM)

Typical controls include:

11.1 Identification of sensitive receptors

All noisy plant and equipment will be located as far away as is practicable from any noise sensitive locations using intervening barriers, screens and other structures (e.g. site huts) where appropriate.

11.2 Selection of working methods

The selection of the method of working for a particular activity will take potential noise emissions into account and where practicable will be selected to ensure disturbance is kept to a minimum.

11.3 Noise and vibration abatement measures

- Working hours will be agreed which minimise disruption to neighbours. Noisy activities will be restricted to the least sensitive times of the day i.e. 0900-1700 hours.
- Neighbours should be kept well informed of the times and dates of any potential noise or vibration nuisances.
- All vehicles, plant and other equipment will be fitted where necessary with appropriate silencers, mufflers, or acoustic covers (see BS 5228 1997 Part 1).
- Noise barriers, e.g. mounds of earth, fences, etc. will be put in place where necessary
- Plant and machinery in intermittent use shall be shut down completely or operated in a minimum idling condition whenever not actually required for work.
- Drop heights into hoppers, lorries and other equipment shall be minimised.

12 Plant maintenance

- A maintenance regime will be in place to ensure that all extraneous noises from mechanical vibration, creaking and squeaking are reduced to a minimum.
- All noise control equipment as fitted to plant and machinery shall be maintained in good and efficient working order and operated in such a manner as to minimise noise emission wherever possible.
- Plant and machinery with defective silencers other than defective noise control equipment shall not be operated until repaired.

13 Monitoring

- Compliance monitoring shall be undertaken as required at sensitive receptors to ensure that noise levels are within acceptable limits.
- Site inspections shall include checks to ensure that the necessary controls are in place to minimise nuisance from noise generated from the site. This will

include checks to ensure that plant has not been left idling, that acoustic covers are in use where necessary, and that plant is in a good condition.

- Vibration monitoring will be undertaken in accordance with BS 6472 during those construction phases that are likely to generate significant levels of vibration (e.g. for percussive piling).
- The contact details of the Project Manager or similar shall be made available outside of normal working hours. Any complaints received shall be actioned immediately and recorded.

14 Working in Highway/ Public Rights of Way (PROW)

The Local Authority must be informed of works in the highway that may require a notice. Works in the highway should take account of peak periods of congestion.

Alternative safe access points to PROW will be provided and signposted.

15 Energy Management

- All plant will be switched off-when not in use.
- Lights, photocopiers and computers in site offices will be turned off when not in use.

16 Material Storage & Waste Management

- Controls with regard to Waste Management & Duty of Care will be implemented by the site management
- Where practicable materials (inclusive of spoil from excavation) will be re-used on site if they are suitable for re-use
- Pipes, fittings, tarmac and aggregates will be stored in a designated location.
- Any weather susceptible materials will be stored in covered areas to ensure that no damage occurs.

17 Litter

Litter on works site will be collected and disposal of in the appropriate skip. This should include wind blown litter and packaging materials.

18 Contaminated Land

Where contamination is unexpectedly discovered on a work site the following approach should be taken:

- Immediately notify a Line Manager and the Cambrian Civil Engineering Project Manager
- Ensure that all site personnel are wearing the appropriate PPE
- Dispose of contaminated land in accordance with the Waste Management Procedure

19 Concrete Washout

Washout from vehicles containing concrete is not only highly alkaline but can also contain the heavy metal chromium (chromium balls are used to grind up cement and the metal is eroded into the mixture). Chromium is included as a List II substance that is prohibited from entering groundwater under the Groundwater Regulations 1999.

Where vehicles are washing out residues of concrete on site, the following pollution prevention approach should be taken:

- Provision of a plastic lined pit for haulage vehicles to wash into.
- Where applicable, settled out solid waste should be removed in accordance with the Waste Management Procedure.
- Washout liquid should not be discharged over ground or to watercourses due to chromium content and high pH.
- Any liquid that does not evaporate naturally should be removed with a bowser and disposed of in the correct manner.

20 Light Emissions

Consideration should be given when positioning site lights as to nearby private houses to ensure that lights do not “invade” the privacy of the property.

Signed....



Christian Chambers (General Manager)