

Ysgol Y Deri Expansion **CEMP Appendix 1**

Environmental Aspects and **Impacts Risk Assessments**

Appendix 1 – Environmental Aspects & Impacts

A: AIR QUALITY													
No.	Aspect	Impact & Legislation	Likelihood			Potential Severity			Control/Mitigation Measures	Ref to Control Plans	Residual Risk Rating		
			High	Med	Low	High	Med	Low			High	Med	Low
A1	Dust arising from construction activities	Nuisance to neighbours. Damage to local wildlife & habitats. Compliance to requirements of Considerate Constructors Scheme Clean Air Act 1993		●		●			<ul style="list-style-type: none"> • Temporary fencing and sheeting at site boundary. • Hard-paving haulage roads and storage areas where possible. • Water used as dust suppressant for dusty works. • Damp down drilling & dry excavation works • Cover stored materials, chutes & skips • Site wide dust monitoring 	<ul style="list-style-type: none"> • ISG BPM Section 6.4.4.4 • GLA BPG The Control of Dust & Emissions from Construction & Demolition • Considerate Constructors Scheme 		●	
A2	Release of ozone depleting substances	Release of ozone depleting substances to the atmosphere. Damage to the atmospheric ozone layer Ozone Depleting Substances (Qualifications) Regulations 2009 Environmental Protection (Controls on Ozone Depleting Substances) Regs 2002 As Amended		●			●		<ul style="list-style-type: none"> • Ban on the use of any ozone depleting substances or materials on the project 	<ul style="list-style-type: none"> • Design Specifications • Contractor documentation 			●
A3	Vehicle & plant emissions	Local air pollution. Nuisance to wildlife & habitats. Clean Air Act 1993	●				●		<ul style="list-style-type: none"> • Compliance with ISG Low Emissions Policy • Engines of vehicles & plant turned off when not in use • Encourage the use of low emission transportation i.e. LPG, electric, hybrid, biofuels, low sulphur petrol etc. • Vehicles & plant to be regularly maintained • All vehicles comply to EU regulations and hold current MOT certification 	<ul style="list-style-type: none"> • ISG BPM Section 6.4.4.4 			●

Appendix 1 – Environmental Aspects & Impacts

A: AIR QUALITY (RELEASE TO AIR) CONTINUED													
No.	Aspect	Impact & Legislation	Likelihood			Potential Severity			Control/Mitigation Measures	Ref to Control Plans	Residual Risk Rating		
			High	Med	Low	High	Med	Low			High	Med	Low
A4	Carbon Dioxide emissions (CO ₂)	Release of greenhouse gas to atmosphere contributing to global warming.		●			●		<ul style="list-style-type: none"> Encourage the use of low CO₂ vehicles for transportation i.e. LPG, electric, hybrid, biofuels etc. Low energy usage plant, lighting & equipment to be used where possible ISG Energy Policy to be implemented 	<ul style="list-style-type: none"> ISG BPM Section 6.4.4.4 ISG Energy Policy 			●
B: BIODIVERSITY & ECOLOGY													
No.	Aspect	Impact & Legislation	Likelihood			Potential Severity			Control/Mitigation Measures	Ref to Control Plans	Residual Risk Rating		
			High	Med	Low	High	Med	Low			High	Med	Low
B1	Retain protected species & habitats	Damage or loss to protected species or habitat. Wildlife & Countryside Act 1981 Conservation (Natural Habitats) Regulations 1994		●			●		<ul style="list-style-type: none"> Identify locations of protected species & habitats and form physical protection to prevent worker access Monitor habitat on regular basis Communicate to operatives via inductions 	<ul style="list-style-type: none"> Environmental Management Plan ISG BPM Section 6.4.5 			●
B2	Protection of trees and planted areas	Damage to trees & associated wildlife		●			●		<ul style="list-style-type: none"> Identify locations of protected species & habitats and form physical protection to prevent worker access Monitor habitat on regular basis Communicate to operatives via inductions Record and identify any damaged habitat for reinstatement 	<ul style="list-style-type: none"> Environmental Management Plan ISG BPM Section 6.4.5 			●
B3	Noise & vibration nuisance to wildlife	Nuisance and damage to wildlife caused by noise and vibration from construction activities Wildlife & Countryside Act 1981 Conservation (Natural Habitats) Regulations 1994	●				●		<ul style="list-style-type: none"> Limitations to hours of working as defined in H&S Plan or Planning Requirements Use of low noise procedures and equipment Temporary noise baffles to be used for noisy operations. Noise barriers at site boundary Best practice procedures to keep noise & vibration ALARP 	<ul style="list-style-type: none"> Planning requirements Construction Phase H&S Plan 			●

Appendix 1 – Environmental Aspects & Impacts

B: BIODIVERSITY & ECOLOGY (CONTINUED)													
No.	Aspect	Impact & Legislation	Likelihood			Potential Severity			Control/Mitigation Measures	Ref to Control Plans	Residual Risk Rating		
			High	Med	Low	High	Med	Low			High	Med	Low
B4	Light nuisance to wildlife	Nuisance and damage to wildlife caused by artificial lighting from construction activities Wildlife & Countryside Act 1981 Conservation (Natural Habitats) Regulations 1994		●				●	<ul style="list-style-type: none"> Diffusers used on permanent lighting to prevent light spread Timers / movement sensors used to limited hours of artificial lighting Light assessments made for temporary / task lighting. To be included in Risk Assessments& Method Statements 	<ul style="list-style-type: none"> Contractor Method Statements 			●
C: ENERGY EFFICIENCY													
No.	Aspect	Impact & Legislation	Likelihood			Potential Severity			Control/Mitigation Measures	Ref to Control Plans	Residual Risk Rating		
			High	Med	Low	High	Med	Low			High	Med	Low
C1	Reduction of energy usage	Reduction in localised pollution and greenhouse gas emissions.		●			●		<ul style="list-style-type: none"> Low energy usage plant, lighting & equipment to be used where possible PIRs for office and welfare lighting ISG Energy Policy to be implemented Measurement of energy usage (where possible) & reporting to ISG 	<ul style="list-style-type: none"> ISG Energy Policy 			●

Appendix 1 – Environmental Aspects & Impacts

D: LAND (CONTAMINATED LAND & RELEASES TO LAND)													
No.	Aspect	Impact & Legislation	Likelihood			Potential Severity			Control/Mitigation Measures	Ref to Control Plans	Residual Risk Rating		
			High	Med	Low	High	Med	Low			High	Med	Low
D1	Prevent pollution of clean land during construction activities	Pollution of soils and associated groundwater systems during construction activities Control of Pollution (Oil Storage) Regs: 2001	●				●		<ul style="list-style-type: none"> • Correct storage of hazardous materials • Use of double skinned storage containers for oils and chemicals • Use of bunds around fuel and oil storage areas to contain leaks and spills (min. 110% capacity) • Spill kits adjacent to all fuel storage areas • Drip trays/Plant Nappies to be used under all oil using plant and equipment • Segregation of contaminated and non contaminated soils • Hard surfaced roads and storage areas • Permit to break ground for excavation works 	<ul style="list-style-type: none"> • Environmental Management Plan • Emergency procedures • ISG BPM Section 6.4.4 	●		
D2	Pollution of clean soils from dewatering process	Pollution of soils and associated groundwater systems during dewatering Control of Pollution (Oil Storage) Regs: 2001		●			●		<ul style="list-style-type: none"> • Pumping of surface water to foul water drainage with DC/WW Consent • Consent to Discharge 	<ul style="list-style-type: none"> • ISG Environmental Management Plan • ISG BPM Section 6.4.4 • DC/WW Consent to Discharge 			●
D3	Pollution to watercourses from contaminated soils	Pollution to watercourses Control of Pollution (Oil Storage) Regs: 2001 Groundwater Regulations 2006	●				●		<ul style="list-style-type: none"> • Controls for rainwater runoff from contaminated soil storage areas • Contaminated soils to be stored on hard standing areas away from surface water drains • Gully guards to be installed in road gullies where required to catch any silt run off 	<ul style="list-style-type: none"> • Pollution Prevention and Incident Contingency Plan • ISG BPM Section 6.4.4 			●

Appendix 1 – Environmental Aspects & Impacts

E: ARCHAEOLOGY & HERITAGE													
No.	Aspect	Impact & Legislation	Likelihood			Potential Severity			Control/Mitigation Measures	Ref to Control Plans	Residual Risk Rating		
			High	Med	Low	High	Med	Low			High	Med	Low
E1	Damage to archaeology & heritage during construction activities	Damage or loss of items of archaeological or historical interest Ancient Monuments Regs: 1981 Treasure Act 1996			●			●	<ul style="list-style-type: none"> Archaeological survey to be completed before excavation works commence Possibility of archaeological or historical items being on site covered in induction 	<ul style="list-style-type: none"> ISG BPM Section 6.4.2 			●
F: LIGHT													
No.	Aspect	Impact & Legislation	Likelihood			Potential Severity			Control/Mitigation Measures	Ref to Control Plans	Residual Risk Rating		
			High	Med	Low	High	Med	Low			High	Med	Low
F1	Light pollution to local communities & ecosystems from temporary safety and task lighting	Nuisance & disturbance to local communities & ecosystems from artificial lighting from construction zones		●				●	<ul style="list-style-type: none"> Planned location of lighting to reduce risk of pollution Light baffles & projector luminaries used to control spread of light Timers and daylight sensors used to control non-essential lighting Warm white spectrum (<2700 Kelvin) used where possible to reduce blue light component (Bat Conservation Trust) 	<ul style="list-style-type: none"> ILE Guidance Notes for the Reduction of Light Pollution CIE Guide on Limitation of the Effects of Obtrusive Light 			●
G: MATERIALS (USE OF RAW MATERIALS & NATURAL RESOURCES)													
No.	Aspect	Impact & Legislation	Likelihood			Potential Severity			Control/Mitigation Measures	Ref to Control Plans	Residual Risk Rating		
			High	Med	Low	High	Med	Low			High	Med	Low
G1	Appropriate life cycle of materials and components	Minimisation of materials & resources by prevention of maintenance or replacement during whole life span of facility		●			●		<ul style="list-style-type: none"> Review of contractors materials evaluate appropriate materials & components to suit planned lifespan of facility 	<ul style="list-style-type: none"> ISG Sustainability Guidance Pack for Suppliers Contractor Sustainability Management Plans ISG Sustainability Returns 			●

Appendix 1 – Environmental Aspects & Impacts

G: MATERIALS (USE OF RAW MATERIALS & NATURAL RESOURCES) CONTINUED													
No.	Aspect	Impact & Legislation	Likelihood			Potential Severity			Control/Mitigation Measures	Ref to Control Plans	Residual Risk Rating		
			High	Med	Low	High	Med	Low			High	Med	Low
G2	Reuse of contaminated excavated materials	Hazards to health of human and wildlife. Contaminated leechants polluting water courses.		●		●			<ul style="list-style-type: none"> • Correct storage of excavated materials • Testing of excavated materials • Remediation & disposal measures in accordance with the ISG site rules 	<ul style="list-style-type: none"> • Contractor Method Statements • Permit to Proceed system 			●
G3	Use of materials not responsibly sourced	Depletion of natural resources & deforestation.		●			●		<ul style="list-style-type: none"> • Only FSC certified sustainable timber products to be used. • Auditing of supply chain deliveries and paperwork • Completion of ISG Sustainability Returns 	<ul style="list-style-type: none"> • ISG Sustainability Guidance Pack for Suppliers • Contractor Sustainability Management Plans • ISG Sustainability Returns 		●	
G4	Use of toxic materials	Pollution to air & water. Hazard to health of humans & wildlife Planning hazardous Substances Act 1990			●		●		<ul style="list-style-type: none"> • Specification and purchase of low toxic alternatives • No use of banned substances in ISG Sustainable Sourcing Code • Correct storage, handling & application & disposal of any toxic materials 	<ul style="list-style-type: none"> • ISG Sustainable Sourcing Code • ISG Environmental Management Plan • Contractors Sustainability Management Plan 			●

Appendix 1 – Environmental Aspects & Impacts

G: MATERIALS (USE OF RAW MATERIALS & NATURAL RESOURCES) CONTINUED													
No.	Aspect	Impact & Legislation	Likelihood			Potential Severity			Control/Mitigation Measures	Ref to Control Plans	Residual Risk Rating		
			High	Med	Low	High	Med	Low			High	Med	Low
G5	Use of HFC's and PVC's	Global warming potential. Use of hazardous materials and environmentally damaging manufacturing methods Ozone Depleting Substances (Qualifications) Regulations 2009 Environmental Protection (Controls on Ozone Depleting Substances) Regs 2002 As Amended	●				●		<ul style="list-style-type: none"> Monitoring of contractor and supplier Sustainable Commodities datasheet Compliance with the HFC Policy. Use of HFC Justification Reports 	<ul style="list-style-type: none"> ISG Sustainable Sourcing Code ISG PVC & HFC Policies ISG Sustainability Returns HFC & PVC Justification Reports 		●	
H: NOISE & VIBRATION (IMPACTS ON LOCAL COMMUNITIES)													
No.	Aspect	Impact & Legislation	Likelihood			Potential Severity			Control/Mitigation Measures	Ref to Control Plans	Residual Risk Rating		
			High	Med	Low	High	Med	Low			High	Med	Low
H1	Noise pollution to local communities from construction activities	Nuisance & disturbance to local communities due to noise caused by construction activities and deliveries. Environmental protection Act 1990 Part III: Statutory Nuisance Noise & Statutory Nuisance Act 1993 Control of Noise (CoP for Construction & Open Sites) Order 2002	●				●		<ul style="list-style-type: none"> Identification of sensitive receptors Hours of noisy operations in accordance with planning approval. Any extension to this will not be carried out without a Section 61 agreement in place. Low noise methods of construction to be employed Low noise plant and equipment specified and used on site Regular monitoring of noise levels at perimeter of site (if required) 	<ul style="list-style-type: none"> Section 61 Agreement ISG Environmental Management Plan 		●	
H2	Vibration nuisance to local communities and damage to buildings from construction activities	Nuisance & damage to local communities due to vibration caused by construction activities and deliveries.			●		●		<ul style="list-style-type: none"> Use of low vibration plant and equipment Regular monitoring of activities likely to cause vibration 	<ul style="list-style-type: none"> ISG Environmental Management Plan 			●

Appendix 1 – Environmental Aspects & Impacts

J: WASTE (MANAGEMENT, INCLUDING REUSE, RECYCLING AND DISPOSAL)													
No.	Aspect	Impact & Legislation	Likelihood			Potential Severity			Control/Mitigation Measures	Ref to Control Plans	Residual Risk Rating		
			High	Med	Low	High	Med	Low			High	Med	Low
J1	Waste production from construction activities	<p>Unnecessary waste of materials and resources. Waste to landfill or incineration. Opportunities for recycling.</p> <p>ISG Zero Waste to Landfill target</p> <p>Landfill: Waste Acceptance Criteria</p> <p>Environmental Permitting Regs: 2007</p> <p>Hazardous Waste Regs: 2005</p> <p>Controlled Waste Regs: 1992</p> <p>Environmental Protection Act 1990 Part II: The Duty of Care</p> <p>Site Waste Management Plan Regs: 2008</p> <p>Waste Electrical and Electronic Equipment (WEEE) Regs 2006</p>	●				●		<ul style="list-style-type: none"> Reduce waste generated via workshops, reusable packaging and maximisation of offsite fabrication Good standards of housekeeping & storage arrangements to avoid material damage Reuse of off cuts and materials wherever possible Segregation of waste streams in accordance with waste management contractors requirements for recycling Use of approved waste management contractor by all suppliers and contractors 	<ul style="list-style-type: none"> ISG Construction Environmental Management Plan Supplier contractual order documentation ISG Site Waste Management Plan 		●	
J2	Waste production from site offices and welfare facilities	<p>Waste to landfill or incineration. Opportunities for recycling are missed.</p> <p>Controlled Waste Regs: 1992</p> <p>Environmental Protection Act 1990 Part II: The Duty of Care</p> <p>Site Waste Management Plan Regs: 2008</p>		●				●	<ul style="list-style-type: none"> Segregation of organic waste from canteen Recycling facilities for office waste 	<ul style="list-style-type: none"> ISG Site Waste Management Plan 			●

Appendix 1 – Environmental Aspects & Impacts

K: WATER (USAGE)													
No.	Aspect	Impact & Legislation	Likelihood			Potential Severity			Control/Mitigation Measures	Ref to Control Plans	Residual Risk Rating		
			High	Med	Low	High	Med	Low			High	Med	Low
K1	Use of water during construction activities	Water wastage or unnecessary use. Water Resources Act 1991 Water Act 2003	●				●		<ul style="list-style-type: none"> Control of water supply Leak prevention On site monitoring & control Targets set for water consumption & records kept 	<ul style="list-style-type: none"> ISG Environmental Management Plan 			●
K2	Use of water from welfare facilities	Water wastage or unnecessary use.		●				●	<ul style="list-style-type: none"> Low usage equipment to be used in welfare facilities (spray taps, waterless urinals etc.) Water management equipment for toilets Targets set for water consumption & records kept 	<ul style="list-style-type: none"> ISG Environmental Management Plan 			●
L: WATER QUALITY (RELEASES TO WATER AND FLOODING)													
No.	Aspect	Impact & Legislation	Likelihood			Potential Severity			Control/Mitigation Measures	Ref to Control Plans	Residual Risk Rating		
			High	Med	Low	High	Med	Low			High	Med	Low
L1	Soil erosion	Sediment and silt residues contaminating existing soil and water courses. Groundwater Regulations 2009		●			●		<ul style="list-style-type: none"> Plan for water runoff from storage areas Prevention of runoff into controlled waters and surface water drainage Regular monitoring of soil erosion 	<ul style="list-style-type: none"> ISG Environmental Management Plan 			●
L2	Surface water runoff from contaminated soils	Pollution to clean soil areas, surface water drains and watercourses. Water Act 2003		●			●		<ul style="list-style-type: none"> Plan for water runoff from contaminated soils areas Prevention of runoff foul water drainage Proper storage areas for contaminated soils. Regular inspections & monitoring 	<ul style="list-style-type: none"> ISG Environmental Management Plan 			●

Appendix 1 – Environmental Aspects & Impacts

L: WATER QUALITY (RELEASES TO WATER AND FLOODING) (CONTINUED)													
No.	Aspect	Impact & Legislation	Likelihood			Potential Severity			Control/Mitigation Measures	Ref to Control Plans	Residual Risk Rating		
			High	Med	Low	High	Med	Low			High	Med	Low
L3	Leaks and spills of hazardous materials	Pollution to surface water drains and watercourses. Control of Pollution Regulations 2001	●			●			<ul style="list-style-type: none"> • Correct storage of hazardous materials • Pollution prevention controls in place i.e. bunding, spill kits, drip trays etc. • Double skinned oil tanks • Spill kits available for all locations of hazardous materials • Spill kits located in all items of plant i.e. excavators / forklift 	<ul style="list-style-type: none"> • ISG Environmental Management Plan • As Built' record drawings of existing drainage systems • ISG BPM Section 6.4.4 • Contractor Method Statements 			●
L4	Flooding from storm water	Pollution to clean soil areas, surface water drains and watercourses.			●	●			<ul style="list-style-type: none"> • Planned storage for hazardous materials • Flood plan & emergency procedures (see EMP) • Storm controls to temporary drains 	<ul style="list-style-type: none"> • ISG Environmental Management Plan 			●
L5	Discharge of waters to foul drains or controlled waters	Pollution of controlled waters. Breach of discharge consent to foul drainage systems.		●		●			<ul style="list-style-type: none"> • DC/WW required for discharge to foul drainage systems • Treatment on site of water for discharge to controlled waters • Regular monitoring & inspections 	<ul style="list-style-type: none"> • ISG Environmental Management Plan • DC/WW Discharge Consents 			●
L6	Damage to boreholes causing pathway for contaminants to the aquifer	Pollution of aquifer. Groundwater Regs: 2009		●		●			<ul style="list-style-type: none"> • Adequate protection of boreholes and working exclusion zone • No storage of materials adjacent to boreholes • Keeping boreholes free from rubbish • Regular inspection of boreholes 	<ul style="list-style-type: none"> • ISG Environmental Management Plan 			●

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